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DAIRY CATTLE BREEDS

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SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

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DAIRY CATTLE BREEDS

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CONTENTS

	Page		Page
Dairy cattle in United States	3	Brown Swiss	13
What is a dairy breed?	5	Dutch Belted	17
Registration	6	Guernsey	20
Which breed to select	6	Holstein-Friesian	24
The score card	7	Jersey	28
Ayrshire	8	Breed associations	32

DAIRY CATTLE IN THE UNITED STATES

ACCORDING to estimates made by the United States Department of Agriculture there were about 34,000,000 dairy cattle of all ages in the United States on January 1, 1924. Three per cent of these cattle, or about 1,000,000, are purebred, and represent six breeds, namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. The improvement that must be made in the 97 per cent that are not purebred must come largely from the 3 per cent that are purebred. Likewise, any increase in the number of our purebred dairy cows, and even the maintenance of our grade dairy herds at their present number and efficiency, will be accomplished principally through the use of purebred bulls. For these reasons purebred dairy cattle have played in the past and will play in the future a very important rôle in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various breeds in the United States, by sections and by States. The information in Table 1, showing total number of each breed on January 1, 1920, was brought out by an inquiry sent to 14,000 special livestock reporters of the branch then known as the Bureau of Markets and Crop Estimates of the United States Department of Agriculture. Grades and scrubs were listed with the respective breeds to which they seemed to belong.

Table 2 shows the number of registered purebreds of the dairy breeds on January 1, 1920, as ascertained by the census.

Table 3 gives the average annual production of milk and butterfat to date (1924) of the cows having official yearly records in the breed associations.

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TABLE 1.—*Estimated number and percentage of cattle of dairy breeds, including purebreds and grades, in the United States, January 1, 1920, by sections*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Ayrshire	412,000	1.8	5.8	0.8	1.9	0.7	----	0.8
Brown Swiss	170,000	.9	.5	1.3	1.3	.3	----	.4
Dutch Belted	157,000	.6	.5	.2	.6	.3	2.3	----
Guernsey	1,993,000	8.4	10.6	12.1	11.9	8.4	1.3	5.1
Holstein-Friesian	11,069,000	47.4	65.3	56.2	54.3	21.1	17.3	58.9
Jersey	9,554,000	40.9	17.3	29.4	30.0	69.2	79.1	34.8
Total	23,355,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1920, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	916,602	30,509	8,283	79,446	528,621	231,834	37,909
Geographic Divisions:							
New England	85,724	9,780	349	10,311	42,721	20,305	2,258
Middle Atlantic	239,764	12,883	1,904	21,114	171,124	25,815	6,924
East North Central	289,859	3,735	4,199	29,640	185,475	57,167	9,643
West North Central	106,967	1,859	1,386	8,250	62,055	23,697	9,720
South Atlantic	49,119	519	43	5,949	15,445	25,245	1,918
East South Central	34,651	27	3	298	5,902	27,024	1,397
West South Central	43,268	60	13	263	9,724	30,650	2,558
Mountain	22,534	324	146	838	12,689	6,926	1,611
Pacific	44,716	1,322	240	2,783	23,486	15,005	1,880
New England:							
Maine	15,683	1,134	62	1,836	7,206	4,999	446
New Hampshire	10,750	1,214	75	1,151	6,695	1,348	267
Vermont	28,549	3,808	59	2,193	13,413	8,546	630
Massachusetts	18,807	1,880	80	3,348	10,006	2,904	589
Rhode Island	1,651	494	----	217	542	351	47
Connecticut	10,284	1,250	73	1,566	4,859	2,257	279
Middle Atlantic:							
New York	153,037	9,521	1,347	9,749	114,662	13,411	4,347
New Jersey	11,538	265	23	1,747	7,810	1,368	325
Pennsylvania	75,189	3,097	534	9,618	48,652	11,036	2,252
East North Central:							
Ohio	70,882	1,021	324	4,960	38,327	23,842	2,408
Indiana	21,115	509	131	1,215	8,477	9,921	862
Illinois	36,412	202	1,385	1,369	25,124	7,317	1,015
Michigan	46,533	291	429	3,369	32,702	8,296	1,446
Wisconsin	114,917	1,712	1,930	18,727	80,845	7,791	3,912
West North Central:							
Minnesota	32,668	309	483	4,468	22,830	2,508	1,980
Iowa	20,286	271	447	1,716	10,916	3,629	3,307
Missouri	19,037	110	135	760	5,569	10,708	1,755
North Dakota	4,797	226	23	346	2,937	481	784
South Dakota	5,248	85	119	135	4,027	312	570
Nebraska	7,873	74	38	348	5,368	1,275	770
Kansas	17,058	694	141	477	10,408	4,784	554
South Atlantic:							
Delaware	1,601	1	----	246	1,245	172	27
Maryland	8,668	113	9	1,867	4,073	2,323	283
District of Columbia	186	----	----	1	175	10	----
Virginia	9,586	25	----	1,696	4,160	3,223	482
West Virginia	4,450	272	32	333	1,134	2,546	133
North Carolina	7,697	44	1	789	1,613	4,978	272
South Carolina	5,184	4	----	644	1,008	3,389	139
Georgia	8,727	14	1	305	1,700	6,224	483
Florida	2,930	46	----	68	337	2,380	99
East South Central:							
Kentucky	8,829	20	----	40	2,046	6,421	302
Tennessee	11,347	2	1	111	1,383	9,424	426
Alabama	6,108	4	2	46	1,142	4,608	306
Mississippi	8,367	1	----	101	1,331	6,571	363
West South Central:							
Arkansas	6,950	3	1	19	2,001	4,627	299
Louisiana	3,415	1	2	94	1,009	2,201	108
Oklahoma	9,539	37	3	91	3,741	5,104	563
Texas	23,364	19	7	59	2,973	18,718	1,588

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1920, by States and sections, as shown by the census*—Continued

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
Mountain:							
Montana	3,451	13	54	176	2,453	560	195
Idaho	4,138	46	48	197	2,049	1,579	219
Wyoming	1,071	21	14	31	747	167	91
Colorado	6,448	114	30	241	4,057	1,605	401
New Mexico	1,327			42	438	507	340
Arizona	2,772	109		48	1,778	669	168
Utah	2,922			93	970	1,706	153
Nevada	405	21		10	197	133	44
Pacific:							
Washington	12,720	404	69	941	7,673	3,402	231
Oregon	12,852	323	135	697	3,624	7,771	302
California	19,144	595	36	1,145	12,189	3,832	1,347

[1] Including animals reported as purebred, but with breed not specified.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that have official yearly records*

Breed	Number of cows	To what date	Milk	Butterfat	
				Quantity	Test
			Pounds	*Pounds*	*Per cent*
Ayrshire	5,790	Jan. 1, 1924	10,190	404.36	3.97
Brown Swiss	390	do	11,773	471.63	4.01
Dutch Belted		do	9,771	362.34	3.71
Guernsey	19,631	do	9,359	468.3	5.00
Holstein-Friesian	16,094	do	15,508	526.0	3.39
Jersey	18,250	do	8,580	460.0	5.36

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of purebred dairy cattle to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a purebred dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A purebred dairy animal is one that meets the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, and through progressive improvement such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either purebreds or grades; but to prevent misunderstanding it is desirable to precede the breed name with the word purebred or grade.

In addition to the breeds of dairy cattle mentioned, certain other breeds having good milking qualities are kept for dairy purposes.

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Such cattle, which are often referred to as dual-purpose animals because of their ability to produce satisfactory carcasses as well as a good milk flow, include the Shorthorn, Red Polled, and Devon. The qualities of these are discussed in Farmers' Bulletin 612, "Breeds of Beef Cattle."

REGISTRATION

A purebred dairy animal is one whose sire and dam are eligible to be recorded by name and number in a register of the breed, commonly called the herdbook. An animal thus qualified may itself be recorded in the same herd register, provided the sire and dam are registered, and provided it also qualifies with regard to color. Additional rules and requirements for registration are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the association concerned, as listed on page 32 of this bulletin.

In addition to the herd register, there is for each breed another register in which are entered the names of purebred cows that have completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The requirements for admission to this special register of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question which breed to choose, and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are: (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with purebreds may feel that since all his neighbors have one breed of cattle, he should get another breed so as to have a monopoly in the business of selling breeding stock. There is no question about the monopoly, but there would probably be no business to monopolize. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed buyers are attracted to the locality because of the better chance to get the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good purebred bulls cooperatively. These advantages are

obtained by those having grade herds as well as by those with purebreds. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

In a district where no breed is established, or in sections where all the different breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality, of the breed well liked, are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder can not shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra fat over the basic test, or deducted from the standard price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select, this point should be kept in mind—there are good cows and poor cows in all breeds, and, other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success, no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful, a diagram is given in Figure 1, which names and locates the various parts referred to on the score cards.

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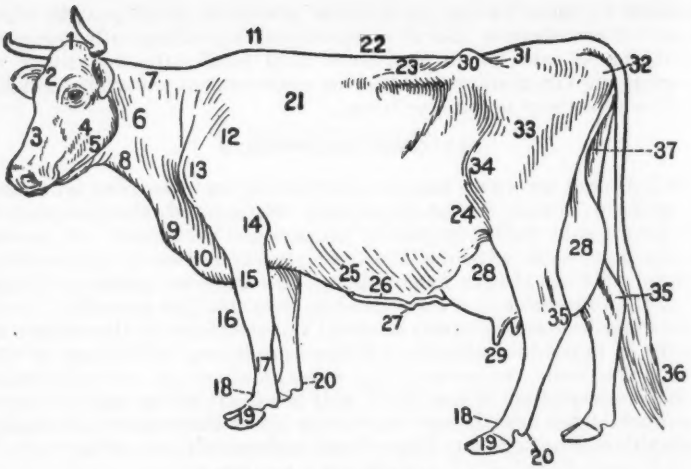

FIG. 1.—Diagram of cow showing parts

1. Poll.
2. Forehead.
3. Bridge of nose.
4. Cheek.
5. Jaw.
6. Neck.
7. Crest of neck.
8. Throat.
9. Dewlap.
10. Brisket.
11. Withers.
12. Shoulder.
13. Point of shoulder.
14. Elbow.
15. Arm or forearm.
16. Knee.
17. Shank.
18. Ankle.
19. Hoof.
20. Fetlock.
21. Crop.
22. Chine.
23. Loin.
24. Flank.
25. Milk well.
26. Milk vein, or mammary vein.
27. Navel.
28. Udder.
29. Teats.
30. Hook, or hook bone.
31. Pelvic arch.
32. Pin bone, thurl, or rump bone.
33. Thigh.
34. Stifle.
35. Hock.
36. Switch or brush of tail.
37. Escutcheon.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. As indicated by Tables 1 and 2, there are about 30,000 registered Ayrshires in the United States, and about 400,000 grades carrying more or less Ayrshire blood. These cattle are found scattered through 38 of the 48 States of the Union, though by far the largest numbers are to be found in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even, the teats medium in size and well placed.

FIG. 2.—Ayrshire bull, Hobsland Lucky Star 29186. Grand champion, National Dairy Show, 1923

10196°—25†——2

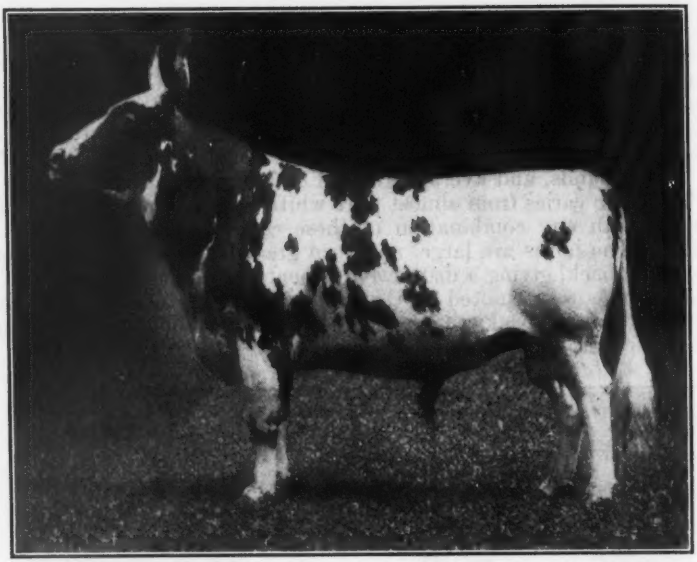

FIG. 3.—Ayrshire bull, Beuchan Peter Pan 12971. Fifty-six of his daughters are in the advanced registry

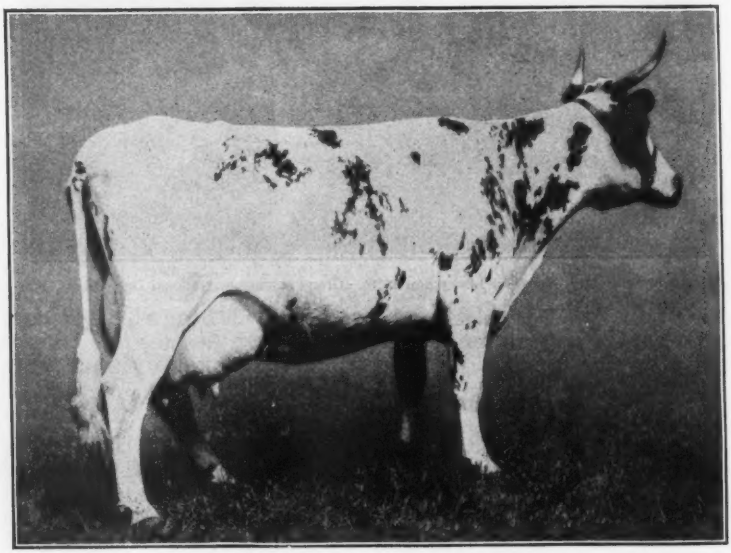

FIG. 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed

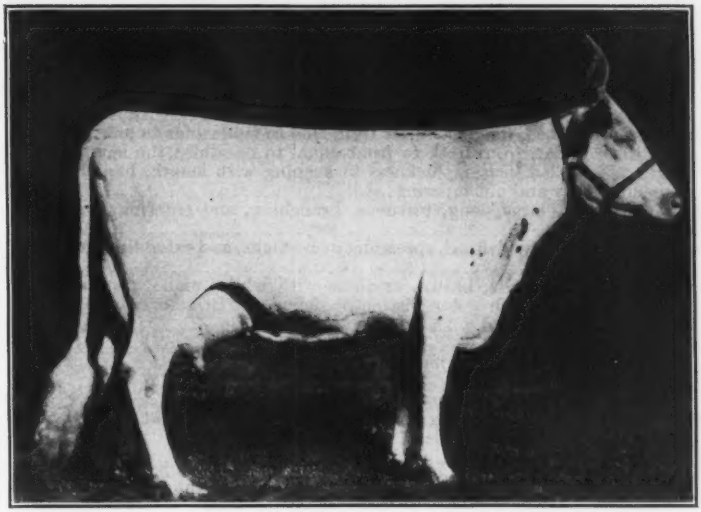

FIG. 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed

Scale of points for Ayrshire cow

Head		10
Forehead, broad and clearly defined	1	
Horns, wide set on and inclining upward	1	
Face, of medium length, slightly dished; clean cut, showing veins	2	
Muzzle, broad and strong without coarseness, nostrils large	1	
Jaws, wide at the base and strong	1	
Eyes, full and bright with placid expression	3	
Ears, of medium size and fine, carried alert	1	
Neck, fine throughout, throat clean, neatly joined to head and shoulders, of good length, moderately thin, nearly free from loose skin, elegant in bearing		3
Fore quarters		10
Shoulders, light, good distance through from point to point but sharp at withers, smoothly blending into body	2	
Chest, low, deep and full between back and forelegs	6	
Brisket, light	1	
Legs and feet, legs straight and short, well apart, shanks fine and smooth, joints firm, feet of medium size, round, solid and deep	1	
Body		13
Back, short and straight, chine lean, sharp and open jointed	4	
Loin, broad, strong, and level	2	
Ribs, long, broad, wide apart, and well sprung	3	
Abdomen, capacious, deep, firmly held up with strong muscular development	3	
Flank, thin and arching	1	
Hind quarters		11
Rump, wide, level, long from hooks to pin bones, a reasonable pelvic arch allowed	3	
Hooks, wide apart and not projecting above back nor unduly overlaid with fat	2	
Pin bones, high, wide apart	1	
Thighs, thin, long and wide apart	2	
Tail, fine, long, and set on level with back	1	
Legs and feet, legs strong, short, straight, when viewed from behind and set well apart; shanks fine and smooth, joints firm, feet medium size, round, solid, and deep	2	

Scale of points for Ayrshire cow—Continued

Udder, long, wide, deep but not pendulous nor fleshy; firmly attached to the body, extending well up behind and far forward; quarters even; sole nearly level and not indented between teats, udder veins well developed and plainly visible		22
Teats, evenly placed, distance apart from side to side equal to half the breadth of udder, from back to front equal to one-third the length; length 2½ to 3½ inches, thickness in keeping with length, hanging perpendicularly and not tapering		8
Mammary veins, large, long, tortuous, branching, and entering large orifices		5
Escutcheon, distinctly defined, spreading over thighs, and extending well upward		2
Color, red of any shade, brown, or these with white; mahogany and white, or white, each color distinctly defined. (Brindle markings allowed but not desired.)		2
Covering		6
Skin, medium thickness, mellow, and elastic	3	
Hair, soft and fine	2	
Secretions, oily, of rich brown or yellow color	1	
Style, active, vigorous, showing strong character, temperament inclined to nervousness but still docile		4
Weight, at maturity not less than 1,000 pounds		4
Total		100

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average of all the dairy breeds. The 5,790 cows and heifers that completed official records up to January 1, 1924, produced an average of 10,190 pounds of milk per cow, containing 404.36 pounds of butterfat, or 3.97 per cent butterfat.

The 10 highest producers of butterfat and milk among the Ayrshires are listed below:

Ten highest Ayrshire yearly butterfat and milk production records in the United States

Butterfat Production			Milk Production		
Cow	Milk	Butterfat	Cow	Milk	Butterfat
	Pounds	*Pounds*		*Pounds*	*Pounds*
Lily of Willowmoor 22269	22, 596	955. 56	Garclaugh May Mischief 27944	25, 329	894. 91
Auchenbrain Brown Kate 4th 27943	23, 022	917. 60	Auchenbrain Brown Kate 4th 27943	23, 022	917. 60
Garclaugh May Mischief 27944	25, 329	894. 91	Lily of Willowmoor 22269	22, 596	955. 56
Auchenbrain Yellow Kate 3d 36910	21, 123	888. 33	Garclaugh Spottie 27950	22, 589	816. 25
Agawam Bess Howie 43781	19, 026	876. 13	Nancy Whitehall 47810	22, 075	858. 77
Harperland Spicy Lass 40652	20, 592	866. 21	Jean Armour 3d 32219	21, 938	859. 65
Jean Armour 3d 32219	21, 938	859. 65	Bloomer's Queen 39119	21, 820	856. 41
Nancy Whitehall 47810	22, 075	858. 77	Auchenbrain Yellow Kate 3d 36910	21, 123	888. 33
Bloomer's Queen 39119	21, 820	856. 41	Voca 5th of Avon 40267	21, 123	741. 91
August Lassie 29581	19, 582	831. 50	Orchard Home Betty	21, 115	785. 58

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1924, are listed below.

Ten Ayrshire sires having the largest number of Advanced-Registry daughters

Sire	Number of daughters	Sire	Number of daughters
Beuchan Peter Pan 12971	56	White Cloud of Hickory Island 10377	32
Finlayston 8882	55	Morton Mains Queechy 11537	27
Baron's Best Bargenoch 12858	43	Netherton Statesman 11643	27
Earl's Choice of Springfield 8289	43	Kate's Good Gift 15426	27
Nox'emall 7312	35	Rena's Champion 11816	26

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where it has been developed during many centuries. It is probably one of the oldest breeds in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. A number of importations have been made since, but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of the foot-and-mouth disease in Europe. As shown in Tables 1 and 2, there are in the United States about 8,000 registered animals, and about 162,000 grades carrying more or less Brown-Swiss blood. These are to be found scattered in 25 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio. Of late years the breed has made notable increase in popularity.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh. The calves weigh from 65 to 90 pounds at birth. The heifers are slow in maturing. When full grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually a lighter shade than the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

XUM

FIG. 6.—Brown Swiss bull, Imp. Junker 2365

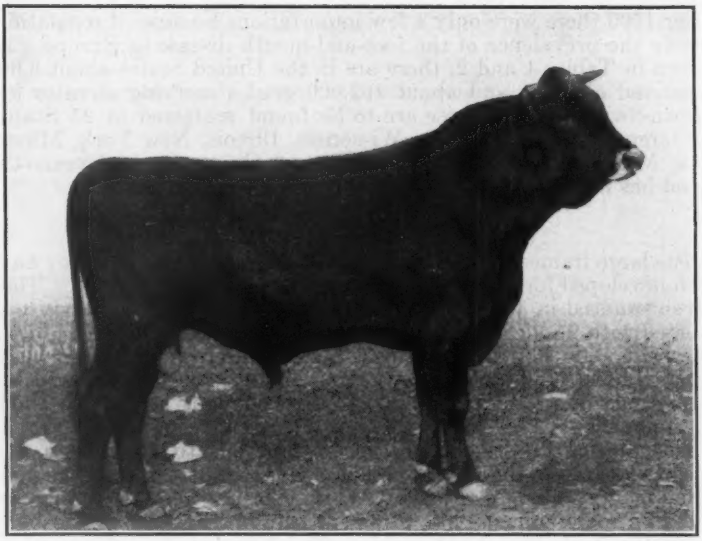

FIG. 7.—Brown Swiss bull, Jubilee Medor 8984. Grand champion, National Dairy Show, 1923

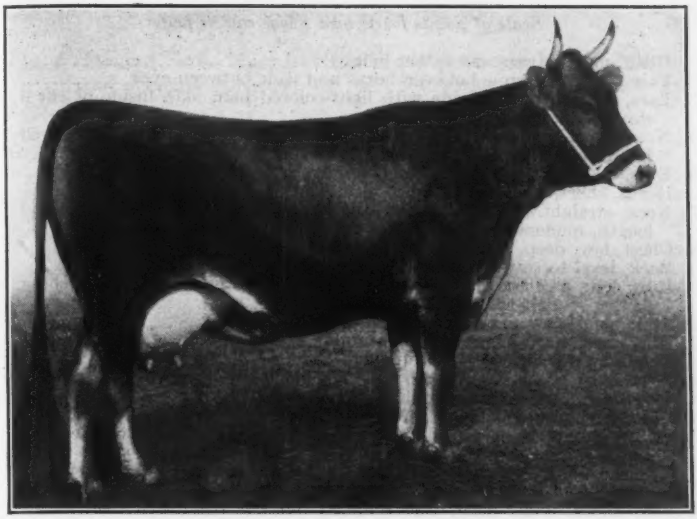

FIG. 8.—Brown Swiss cow, Hawthorn Dairy Maid 6753. One of the high producers of the breed

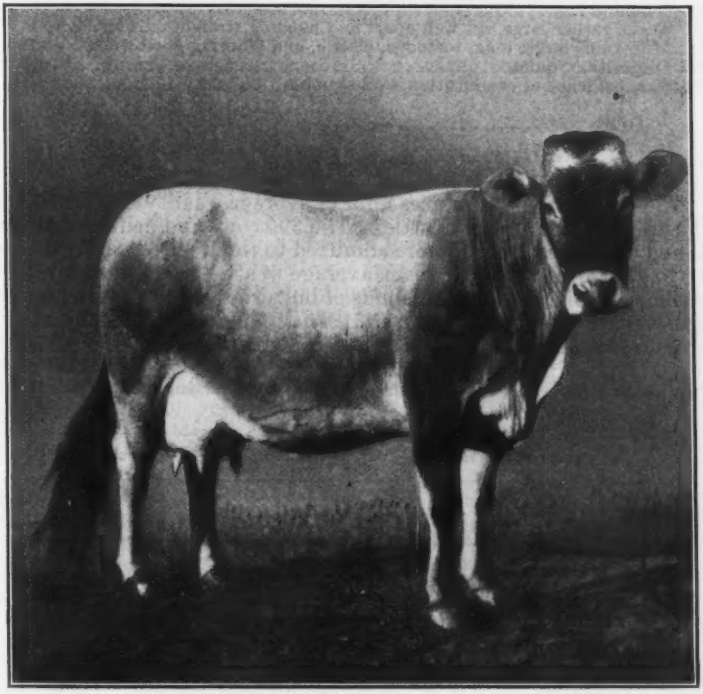

FIG. 9.—Brown Swiss cow, Believe 4245. World's champion of her breed in production of milk and butterfat

Scale of points for Brown Swiss cow or heifer

1.	Head, medium size and rather long	2
2.	Face, dished, narrow between horns and wide between eyes	2
3.	Ears, large, fringed inside with light-colored hair, skin inside of ear a deep orange color	2
4.	Nose, black, large, and square, with mouth surrounded by mealy colored band, tongue black	2
5.	Eyes, moderately large, full, and bright	2
6.	Horns, short, regularly set with black tips	2
7.	Neck, straight, throat clean, neatly joined to head, shoulders of good length, moderately thin at the withers	4
8.	Chest, low, deep, and full between and back of forelegs	6
9.	Back, level to setting of tail and broad across the loin	6
10.	Ribs, long and broad, wide apart and well sprung, with thin, arching flanks	3
11.	Abdomen, large and deep	5
12.	Hips wide apart, rump long and broad	4
13.	Thighs, wide, quarters not thin	4
14.	Legs, short and straight, with good hoofs	2
15.	Tail, slender, well set on, with good switch	2
16.	Hide of medium thickness, mellow and elastic	3
17.	Color—shades from dark to light brown, at some seasons of the year gray; white splashes near udder not objectionable, light stripe along back. White splashes on body or sides objectionable. Hair between horns usually lighter shade than body	4
18.	Fore udder, wide, deep, well rounded but not pendulous nor fleshy, extending far forward on the abdomen	12
19.	Rear udder, wide, deep, but not pendulous nor fleshy, extending well up behind	12
20.	Teats, rather large, set well apart and hanging straight	8
21.	Milk veins large, long, tortuous, elastic, and entering good wells	6
22.	Disposition, quiet	2
23.	Size, evidence of constitution, and stamina	5
	Total	100

PRODUCTION

The Brown Swiss produces milk of average quality compared with the other breeds of dairy cattle. The 390 cows and heifers that completed yearly records and were admitted to the Register of Production up to January 1, 1924, have an average yearly production of 11,773 pounds of milk and 471.63 pounds of butterfat per cow, with an average butterfat test of 4.01 per cent. The 10 highest butterfat and milk producers among the Brown Swiss are listed below.

Ten highest Brown Swiss yearly butterfat and milk production records in the United States

Butterfat Production			Milk Production		
Cow	Milk	Butterfat	Cow	Milk	Butterfat
	Pounds	*Pounds*		*Pounds*	*Pounds*
Believe 4245	25,848	1,002.62	Believe 4245	25,848	1,002.62
Hawthorn Dairy Maid 6753	22,623	927.23	Hawthorn Dairy Maid 6753	22,623	927.23
Alice Lee 2d 8777	22,385	914.38	Alice Lee 2d 8777	22,385	914.38
Mary Dysart 6791	16,861	804.05	College Bravura 2d 2577	19,461	798.16
Pretty Jane 8873	18,042	801.42	Swiss Valley Girl 10th 7887	18,835	675.58
College Bravura 2d 2577	19,461	798.16	Ethel B. 3842	18,816	779.97
Ethel B. 3842	18,816	779.97	Mary of City View 7282	18,580	659.72
Hollyhock of Kinnelon 6707	17,140	766.98	Trilba M. 2d 7501	18,388	656.98
Brownie of Walhalla 7612	16,136	760.65	Justina of Laurel Locks 10845	18,331	639.18
Helen Tremont 9815	18,199	758.72	Rhoda 6207	18,251	633.75

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to December 1, 1923, are listed below.

Ten Brown Swiss sires having the largest number of daughters in Register of Production

Sire	Number of daughters	Sire	Number of daughters
Reuben 2927	23	Casper C. 1999	7
Junker 2365	10	Ben Hanson 2373	7
Collier 2075	10	McAvoy 2068	6
College Master 2986	9	Foxhollow Kalistex 3725	5
Tom Phylis 1769	7	Lectum 4770	5

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in Holland about two centuries ago. The breed gets its name both from the original home and from the distinctive color marking. This breed has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in America. A number were imported from that time on until 1885, and some in 1906 and 1907, since when no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. As shown in Table 1, there are about 6,000 purebred Dutch Belted cattle in the United States, and about 150,000 grades.

GENERAL CHARACTERISTICS

Dutch Belted cattle have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and extends to the front of the hips. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black. White above the hocks on the hind legs or above the ankles on forefeet, or white spots in the forehead, disqualify for registration.

XUM

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

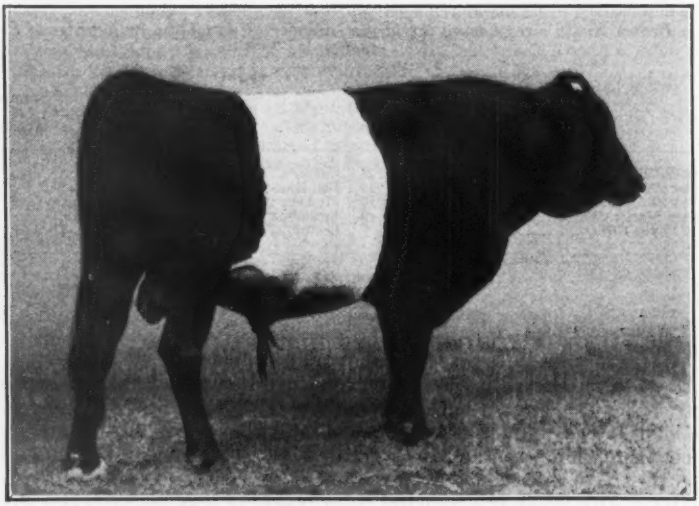

FIG. 10.—Dutch Belted bull, Keith 934. An advanced-register sire

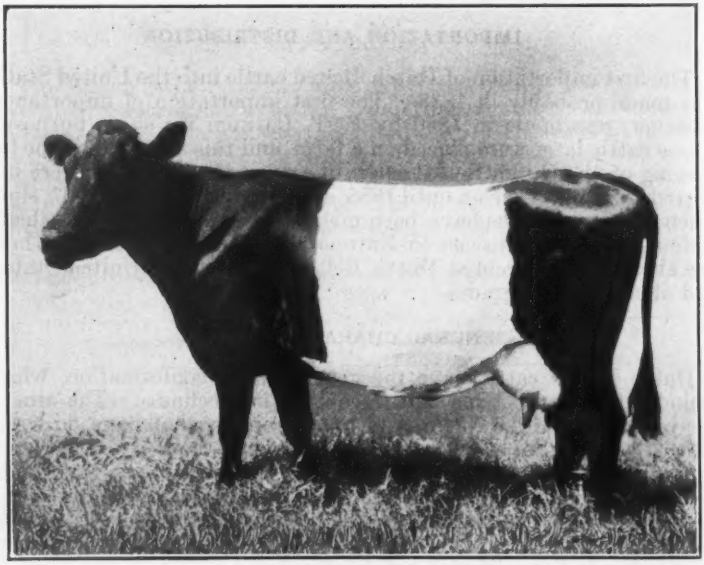

FIG. 11.—Dutch Belted cow, Gem of Columbia 2038. Leading milk and butterfat producer of the breed

Scale of points for Dutch Belted cow

1. Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
2. Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
3. Eyes, black, full and mild. Horns long compared with their diameter	4
4. Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
5. Shoulders fine at the top, becoming deep and broad as they extend backward and downward, with a low chest	4
6. Barrel large and deep with well-developed abdomen; ribs well rounded and free from fat	10
7. Hips broad, and chine level, with full loin	10
8. Rump high, long, and broad	6
9. Hind quarters long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
10. Legs short, clean, standing well apart	3
11. Udder large, well-developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices	20
12. Escutcheon	2
13. Hair fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
14. Quiet disposition and free from excessive fat	4
15. General condition and apparent constitution	6
Perfection	100

PRODUCTION

By referring to Table 3 it will be seen that the Dutch Belted cow ranks between the Holstein and the Ayrshire in the percentage of butterfat contained in her milk. The Dutch Belted cows and heifers that finished yearly official records up to January 1, 1924, show an average production of 9,771 pounds of milk and 362.34 pounds of butterfat, with an average test of 3.71 per cent.

The 10 highest producers of butterfat and milk among Dutch Belted cows are listed below.

Ten highest Dutch Belted yearly butterfat and milk production records in the United States

Butterfat Production			Milk Production		
Cow	Milk	Butterfat	Cow	Milk	Butterfat
	Pounds	*Pounds*		*Pounds*	*Pounds*
Gem of Columbia 2038	17,125	625.00	Gem of Columbia 2038	17,125	625.00
Glenbeulah Beauty 2172	13,296	531.19	Ferndell 1961	13,478	501.09
Ferndell 1961	13,478	501.09	Glenbeulah Beauty 2172	13,296	531.19
Peapack Anna 1487	13,159	484.31	Peapack Anna 1487	13,159	484.31
Peapack Dutchess 1390	13,065	447.64	Peapack Dutchess 1390	13,065	447.64
Fritzi 1832	11,353	435.79	Eunice 1597	11,479	397.24
Alpha of the Dell 2293	9,019	412.04	Fritzi 1832	11,353	435.79
Lady Bell 2809	10,880	410.40	Lady Bell 2809	10,880	410.40
Gem of Florida's Glory 2520	10,310	408.00	Gem of Florida's Glory 2520	10,310	408.00
Eunice 1597	11,479	397.24	Rancho Queen's Fancy 2460	10,192	392.71

BULLS

The Dutch Belted sires having the largest number of daughters with official yearly records, up to January 1, 1924, are listed below.

Dutch Belted sires having two or more daughters with Advanced-Register official yearly records

Bruce W. 729.
Keith 934.
Columbia King 1015.
Glenbeulah Duke 1092.
Sutton's Gay Lad 494.
Monarch of Lakeview 1219.
Defendant 1185.
Samoset 1134.

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to America were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

According to Tables 1 and 2, there are about 80,000 purebred Guernsey cattle in the United States, and about 1,900,000 grades. They are to be found in every State of the Union, but by far the largest numbers are found in the North Atlantic and North Central States.

GENERAL CHARACTERISTICS

In size the Guernseys are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth, and reach maturity early. When mature the cows weigh from 850 to 1,300 pounds, averaging about 1,050; and the bulls from 1,400 to 2,000 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

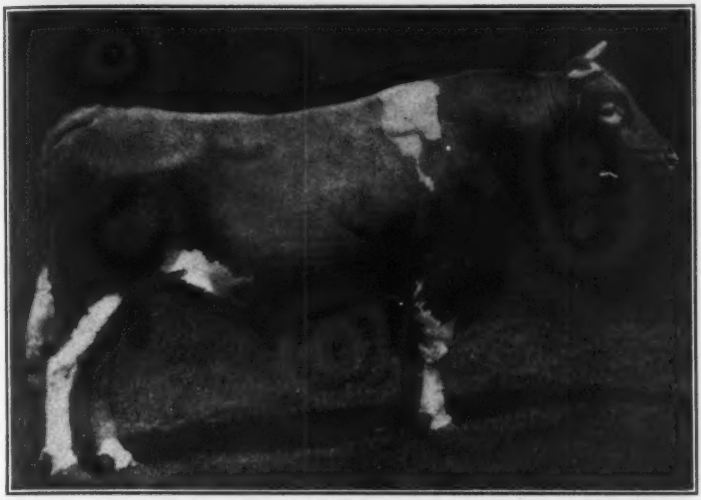

FIG. 12.—Guernsey bull, Yeoman's King of the May 17053. He has 84 daughters in the advanced registry

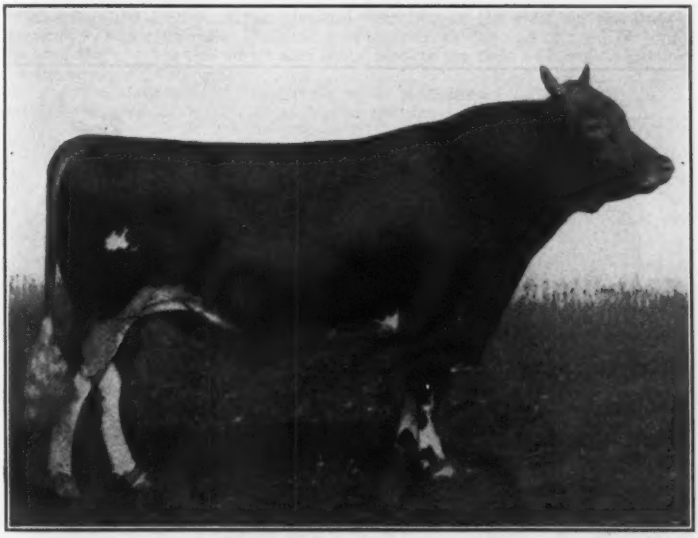

FIG. 13.—Guernsey bull, Deanie's Marose of Appletree Point 62742. Grand champion, National Dairy Show, 1923

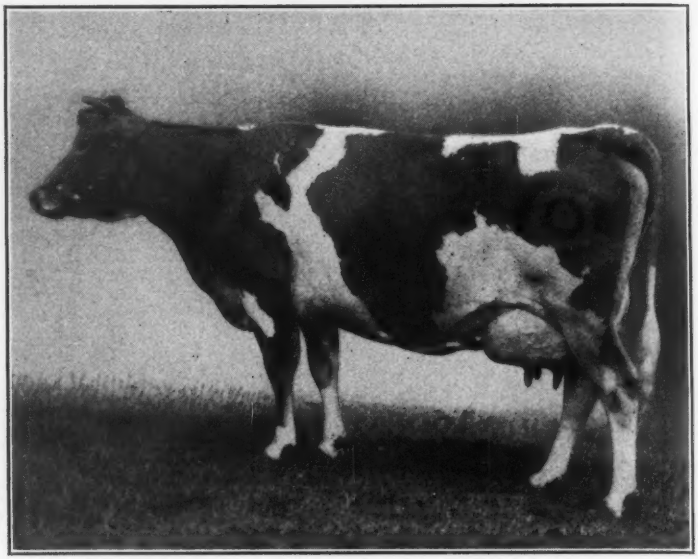

FIG. 14.—Guernsey cow, Countess Prue 43785. Champion butterfat producer of the breed

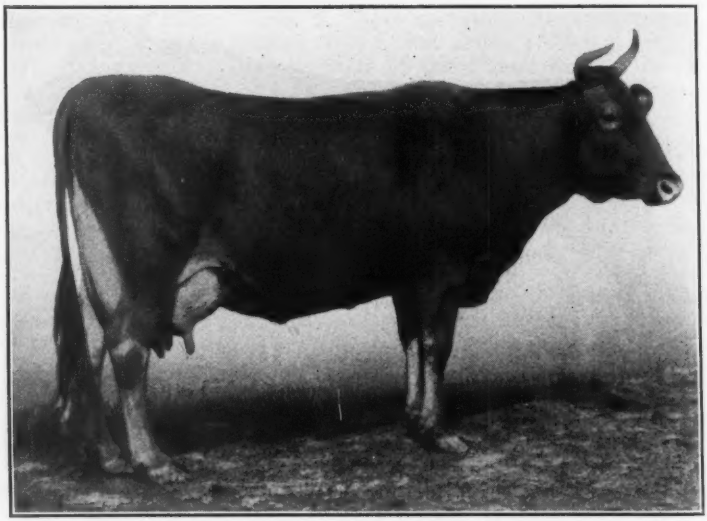

FIG. 15.—Guernsey cow, Murne Cowan 19597. Champion milk producer of the breed

Scale of points for Guernsey cow

Head, clean cut, lean face, wide mouth and muzzle, with open nostrils, full, bright eye, with gentle expression. Forehead long, broad between the eyes, and dishing	6
Horns, small at base, medium length, not too spreading	1
Neck, long and thin; clean throat	2
Withers, chine rising above shoulder blades that are moderately thick and not coarse	3
Back, straight from withers to hips	8
Hips, wide apart, not too prominent	2
Rump, long, continuing with level of the back, also level between hip bones and pin bones	5
Thurls, wide apart and high	2
Chest, wide and deep at heart, with least depression possible back of the shoulders	4
Body, deep and long, with well-sprung ribs which are wide apart. Broad loin. Thin, arching flank	10
Thighs, thin, incurving seen from side, and wide apart from rear	2
Legs, comparatively short, clean, wide apart, and nearly straight when viewed from behind, squarely set under body	2
Hide, loose and pliable, and not thick, with oily feeling	3
Tail, neat and firm setting on, long, good switch	1
Udder:	
Veins prominent	2
Attachment to body and wide	2
Extending well forward	5
Level and well up behind	4
Teats of good, even size, well apart, and squarely placed	5
Milk veins, long, crooked, branching and prominent, with large, deep wells	4
Secretions indicating color of product, indicated by the depth of yellow, inclining toward orange of the pigment secretion in the skin, on the body generally, and especially discernible in the ear, at the end of bone of tail, around the eye, on the udder and teats, and at the base of horns. Hoofs and horns amber colored	20
Color markings, a shade of fawn, with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	5
Total	100

PRODUCTION

Guernsey milk has a high per cent of butterfat and a yellow color.

The 19,631 cows and heifers that completed official records up to January 1, 1924, produced an average per cow of 9,359 pounds of milk and 468.3 pounds of butterfat, the average fat test being 5 per cent.

The 10 highest butterfat and milk producers among the Guernseys are listed below.

Ten highest Guernsey yearly butterfat and milk production records in the United States

Butterfat Production			Milk Production		
	Milk	Butterfat		Milk	Butterfat
	Pounds	*Pounds*		*Pounds*	*Pounds*
Countess Prue 43785	18, 627	1, 103. 28	Murne Cowan 19597	24, 008	1, 098. 18
Murne Cowan 19597	24, 008	1, 098. 18	Nella Jay 4th 38233	20, 710	1, 019. 25
May Rilma 22761	19, 673	1, 073. 41	Jean Du Luth Coronet 52816	20, 004	952. 27
Nella Jay 4th 38233	20, 710	1, 019. 25	Langwater Hope 27946	19, 882	1, 003. 17
Langwater Nancy 27943	18, 783	1, 011. 66	Yeksa's Tops of Gold's Fannie 22362	19, 795	981. 53
Dairy Maid Queen of Spring Hill 74067	18, 181	1, 011. 18	May Rilma 22761	19, 673	1, 073. 41
Langwater Hope 27946	19, 882	1, 003. 17	Belladia 31909	19, 632	934. 05
Yeksa's Tops of Gold's Fannie 22362	19, 795	981. 53	Pearl's Dot 57445	19, 602	965. 80
My Fancy of Falcon's Flight 42999	18, 215	979. 11	Cinderella Josephine 34500	19, 460	909. 05
Pearl's Dot 57445	19, 602	965. 80	Ada of Tamworth II 43614	18, 857	707. 17

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to January 1, 1924, are listed below.

Ten Guernsey sires having the largest number of Advanced-Register daughters

Sire	Number of daughters	Sire	Number of daughters
Governor of the Chene (R. G. A. S. 1297 P. S.)	112	Clara's Sequel 29414 (Imp.)	52
Yeoman's King of the May 17053	84	Ne Plus Ultra 15265	46
Masher's Sequel 11462 (Imp.)	70	Cora's Governor of Chilmark 9871 (Imp.)	46
Langwater Demonstrator 16451	66	Beda's May King 11893	41
Galaxy's Sequel 16904 (Imp.)	53	Justinée's Sequel of the Preel (R. G. A. S. 2119 P. S.)	39

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in northern Holland, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word Holstein is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

According to Tables 1 and 2 there are about 528,000 purebred Holsteins in the United States, and about 10,500,000 grades. Holstein cattle are found throughout all the 48 States of the Union, though by far the largest numbers are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These six States contain more than 60 per cent of the purebred Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to

2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

FIG. 16.—Holstein bull, Sir Pietertje Ormsby Mercedes 44931. He has 56 yearly-record daughters in the advanced register

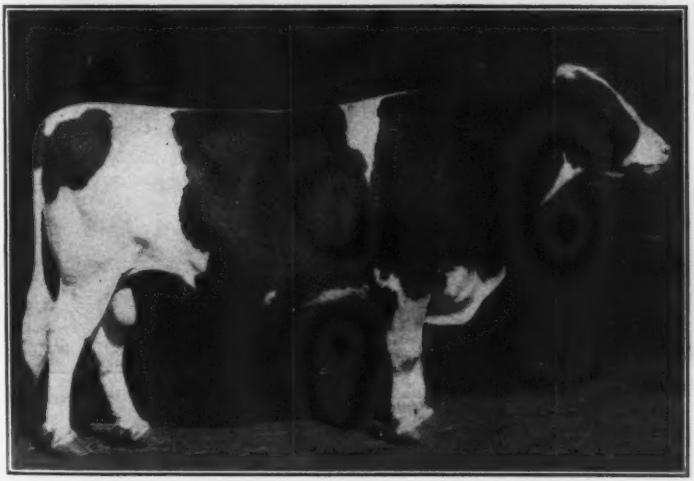

FIG. 17.—Holstein bull, McKinley Pietertje Beets 154888. Grand champion, National Dairy Show, 1923

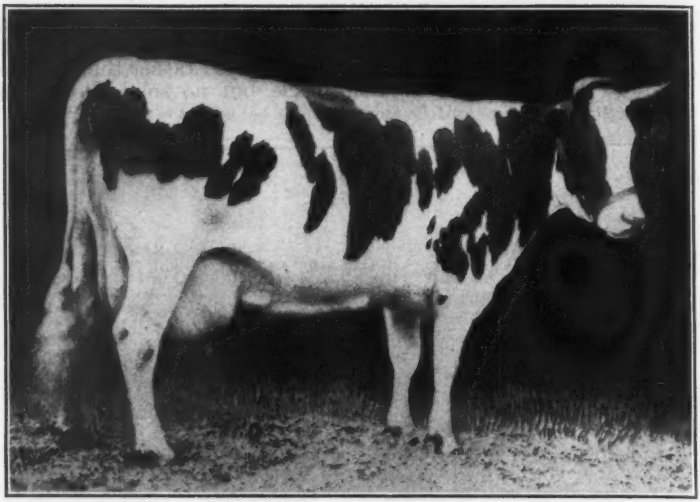

FIG. 18.—Holstein cow, Segis Pietertje Prospect 221846. Has highest yearly milk record in the United States

FIG. 19.—Holstein cow, May Walker Ollie Homestead 300043. Has highest yearly butterfat record in the United States

Scale of points for Holstein-Friesian cow

Forehead, broad between the eyes; dishing	2
Face, of medium length; clean cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws strong	3
Ears, of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	5
Chine, straight; strong; broadly developed, with open vertebræ	4
Loin and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 16,094 official records of Holstein cows and heifers that were completed up to January 1, 1924, show an average yearly production of 15,508 pounds of milk and 526 pounds of butterfat, the average test being 3.39 per cent.

The 10 highest butterfat and milk producers among the Holsteins are listed below.

Ten highest Holstein yearly butterfat and milk production records in the United States

Butterfat Production			Milk Production		
Cow	Milk	Butterfat	Cow	Milk	Butterfat
	Pounds	*Pounds*		*Pounds*	*Pounds*
May Walker Ollie Homestead 300043	31,611	1,218.59	Segis Pietertje Prospect 221846	37,381	1,158.95
Hollywood Lilith Palmyra Abbekerk 400491	31,859	1,206.79	Kolrain Marion Finderne 317396	35,339	1,022.96
Duchess Skylark Ormsby 124514	27,762	1,205.09	Kolrain Finderne Bess 291570	35,085	1,117.16
Finderne Pride Johanna Rue 121083	28,404	1,176.47	Queen Carlotta De Kol 311674	34,430	1,012.42
Segis Pietertje Prospect 221846	37,381	1,158.95	Adirondac Wietske Dairy Maid 204072	34,402	1,136.15
Grahamholm Colantha Pauline Segis 405465	34,292	1,141.40	Grahamholm Colantha Pauline Segis 405465	34,292	1,141.40
Adirondac Wietske Dairy Maid 204072	34,402	1,136.15	Princess Aaggie Polkadot De Kol 372024	34,070	1,119.83
Neel-je Mercedes De Kol Homeland 274016	30,566	1,134.48	Tilly Alcartra 123459	33,425	1,058.42
Poplar Jewess De Kol 198322	33,368	1,119.95	Poplar Jewess De Kol 198322	33,368	1,119.95
Princess Aaggie Polkadot De Kol 372024	34,070	1,119.83	Zarilda Clothilde 3d De Kol 133840	33,154	955.34

BULLS

The 10 Holstein-Friesian sires having the largest number of daughters with yearly records, up to January 1, 1924, are listed below.

Ten Holstein sires with the largest number of yearly-record daughters

Sire	Number of daughters	Sire	Number of daughters
Sir Pietertje Ormsby Mercedes 44931	56	Sir Inka Prilly Segis 80914	39
King Pontiac Champion 53418	50	Dutchland Colantha Sir Inka 50999	39
Woodcrest Tehee 74219	50	Sir Pietertje Ormsby Mercedes 37th 110160	37
Sir Johanna Fayne 42147	48	King Segis Pontiac Count 93909	34
King of the Pontiacs 39037	42	Colantha Sir Walker Korndyke 95460	29

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. It came from the same stock as the Guernsey breed, and at one time these two breeds were together known as Alderney. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. There were about 232,000 purebred and about 9,300,000 grade Jerseys in this country in 1920, well scattered throughout all the 48 States.

GENERAL CHARACTERISTICS

The Jersey is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common, and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon; and around the muzzle is a white or mealy ring.

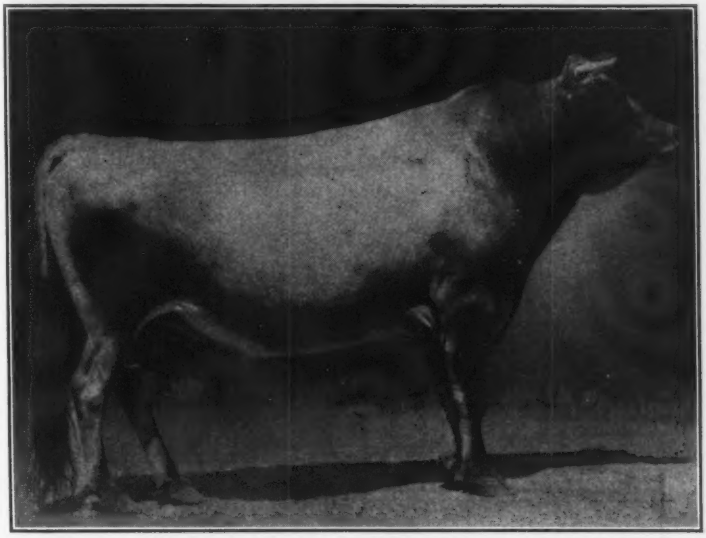

FIG. 20.—Jersey bull, Pogis 99th of Hood Farm 94502. He has 102 daughters in the register of merit

FIG. 21.—Jersey bull, Fern's Wexford Noble 172066 Grand champion, National Dairy Show, 1923

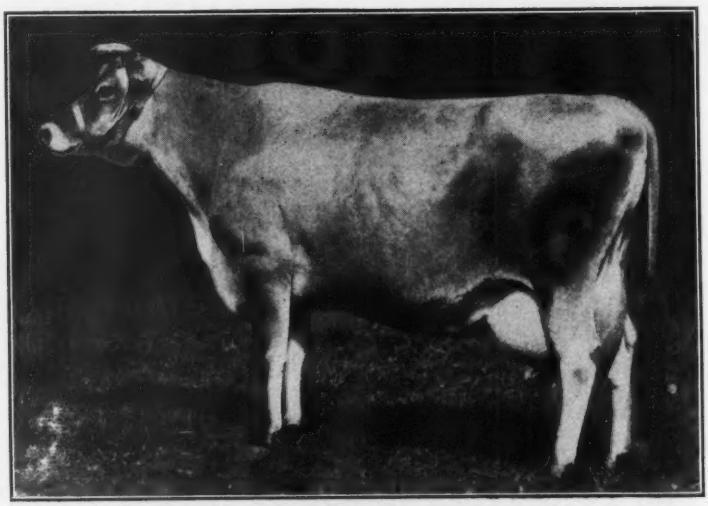

FIG. 22.—Jersey cow, Fauvic's Star 313018. Champion milk producer of the breed

FIG. 23.—Jersey cow, Darling's Jolly Lassie 435948. Champion butterfat producer of the breed

Scale of points for Jersey cow

DAIRY TEMPERAMENT AND CONSTITUTION

Head, 7:
- A. Medium size, lean; face dished; broad between eyes; horns medium size, incurving ---- 3
- B. Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong ---- 4

Neck, 4:
- Thin, rather long, with clean throat, neatly joined to head and shoulders ---- 4

Body, 37:
- A. Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs ---- 5
- B. Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development ---- 10
- C. Back straight and strong, with prominent spinal processes; lions broad and strong ---- 5
- D. Rump long to tail setting, and level from hip bones to rump bones ---- 6
- E. Hip bones high and wide apart ---- 3
- F. Thighs flat and wide apart, giving ample room for udder ---- 3
- G. Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking ---- 2
- H. Hide loose and mellow ---- 2
- I. Tail thin, long, with good switch, not coarse at setting on ---- 1

MAMMARY DEVELOPMENT

Udder, 26:
- A. Large size, flexible, and not fleshy ---- 6
- B. Broad, level or spherical, not deeply cut between teats ---- 4
- C. Fore udder full and well rounded, running well forward of front teats ---- 10
- D. Rear udder well rounded, and well out and up behind ---- 6

Teats, 8:
- Of good and uniform length and size, regularly and squarely placed ---- 8

Milk veins, 4:
- Large, long, tortuous and elastic, entering large and numerous orifices ---- 4

Size, 4:
- Mature cows, 800 to 1,000 pounds ---- 4

General appearance, 10:
- A symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal, with the general appearance of a high-class animal, with capacity for feed and productiveness at pail ---- 10

Total score ---- 100

XUM

PRODUCTION

Jersey milk is yellow and rich in butterfat. The 18,250 cows and heifers that had Register-of-Merit records up to January 1, 1924, averaged 8,580 pounds of milk and 460 pounds of butterfat a year, with an average test of 5.36 per cent.

The 10 highest butterfat and milk producers among the Jerseys are listed below.

Ten highest Jersey yearly butterfat and milk production records in the United States

Butterfat Production			Milk Production		
Cow	Milk	Butterfat	Cow	Milk	Butterfat
	Pounds	*Pounds*		*Pounds*	*Pounds*
Darling's Jolly Lassie 435948	16,425	1,141.28	Fauvic's Star 313018	20,616	1,005.90
Groff's Constance 367292	17,942	1,130.09	Passport 219742	19,695	839.26
Prince's Emma of H. S. F. 359390	18,437	1,109.99	Lad's Likeness 338246	19,223	937.50
Lad's Iota 350672	18,632	1,048.07	Eminent's Jimp's Owl 297471	19,009	768.44
Plain Mary 268206	15,256	1,040.08	Raleigh's Sybil 372752	18,847	863.53
Vive La France 319616	15,272	1,039.29	Eminent's Bess 209719	18,783	962.80
Lady's Silken Glow 313311	14,939	1,038.70	Lass 40th of Hood Farm 223642	18,661	854.90
St. Mawes Lad's Lady 451568	15,229	1,032.97	Lad's Iota 350672	18,632	1,048.07
Brown Lady's Little Jewel 378786	18,318	1,019.73	Helma of Ashwood 352476	18,525	903.56
Fauvic's Star 313018	20,616	1,005.90	Prince's Emma of H. S. F. 359390	18,437	1,109.99

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to January 1, 1924, are listed below.

Ten Jersey sires with largest number of daughters in Register of Merit

Sire	Number of daughters	Sire	Number of daughters
Pogis 99th of Hood Farm 94502	102	The Imported Jap 75265	49
Royal Majesty of St. Cloud 89541	78	Rinda Lad of S. B. 89518	46
Hood Farm Torono 60326	74	Golden Glow's Chief 61460	40
Sophie 19th's Tormentor 113302	67	Fauvic's Prince 107961	29
Rosaire's Olga Lad 87498	51	Holger 109744	26

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) To keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations and their addresses are as follows:

American Guernsey Cattle Club, Peterboro, N. H.
American Jersey Cattle Club, 324 West Twenty-third Street, New York City.
Ayrshire Breeders' Association, Brandon, Vt.
Brown Swiss Cattle Breeders' Association, Beloit, Wis.
Dutch Belted Cattle Association of America, Rockville, Conn.
Holstein-Friesian Association of America, Brattleboro, Vt.

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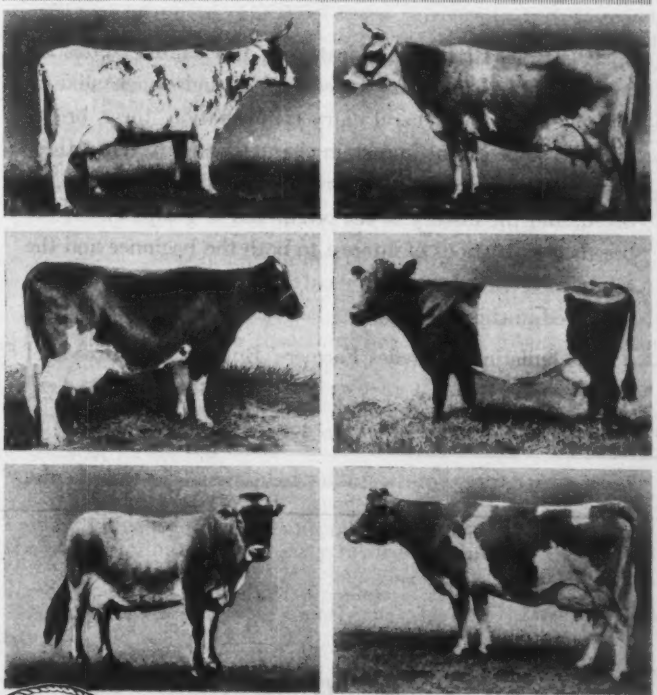
DAIRY CATTLE BREEDS



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SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

Washington, D.C. Issued February, 1925; revised September, 1926

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *Dairy Husbandman, Bureau of Dairy Industry*

CONTENTS

	Page		Page
Dairy cattle in the United States	1	Brown Swiss	10
What is a dairy breed?	3	Dutch Belted	14
Registration	3	Guernsey	27
Which breed to select	4	Holstein-Friesian	22
The score card	6	Jersey	26
Ayrshire	6	Breed associations	30

DAIRY CATTLE IN THE UNITED STATES

ACCORDING to estimates made by the United States Department of Agriculture there were about 33,000,000 dairy cattle of all ages in the United States on January 1, 1926. Three per cent of these cattle, or about 1,000,000, are purebred, and represent six breeds, namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. The improvement that must be made in the 97 per cent that are not purebred must come largely from the 3 per cent that are purebred. Likewise, any increase in the number of our purebred dairy cows, and even the maintenance of our grade dairy herds at their present number and efficiency, will be accomplished principally through the use of purebred bulls. For these reasons purebred dairy cattle have played in the past and will play in the future a very important rôle in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various breeds in the United States, by sections and by States. The information in Table 1, showing total number of each breed on January 1, 1920, was brought out by an inquiry sent to 14,000 special livestock reporters of the branch then known as the Bureau of Markets and Crop Estimates of the United States Department of Agriculture. Grades and scrubs were listed with the respective breeds to which they seemed to belong.

Table 2 shows the number of registered purebreds of the dairy breeds on January 1, 1920, as ascertained by the census.

Table 3 gives the average annual production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 1.—*Estimated number and percentage of cattle of dairy breeds, including purebreds and grades, in the United States, January 1, 1920, by sections*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Ayrshire	412,000	1.8	5.8	0.8	1.9	0.7	.....	0.8
Brown Swiss	170,000	.7	.5	1.3	1.3	.3	.....	.4
Dutch Belted	157,000	.7	.5	.2	.6	.3	2.3	.....
Guernsey	1,993,000	8.5	10.6	12.1	11.9	8.4	1.3	5.1
Holstein-Friesian	11,069,000	47.4	65.3	56.2	54.3	21.1	17.3	58.9
Jersey	9,554,000	40.9	17.3	29.4	30.0	69.2	79.1	34.8
Total	23,355,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1920, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	916,602	30,509	8,283	79,446	528,621	231,834	37,909
Geographic divisions:							
New England	85,724	9,780	349	10,311	42,721	20,305	2,258
Middle Atlantic	239,764	12,883	1,904	21,114	171,124	25,815	6,924
East North Central	289,859	3,735	4,199	29,640	185,475	57,167	9,643
West North Central	106,967	1,859	1,386	8,250	62,055	23,697	9,720
South Atlantic	49,119	519	43	5,949	15,445	25,245	1,918
East South Central	34,651	27	3	298	5,902	27,024	1,397
West South Central	43,268	60	13	263	9,724	30,650	2,558
Mountain	22,534	324	146	838	12,689	6,926	1,611
Pacific	44,716	1,322	240	2,783	23,486	15,005	1,880
New England:							
Maine	15,683	1,134	62	1,836	7,206	4,999	446
New Hampshire	10,750	1,214	75	1,151	6,695	1,348	267
Vermont	28,549	3,808	59	2,193	13,413	8,446	630
Massachusetts	18,807	1,880	80	3,348	10,006	2,904	589
Rhode Island	1,651	494		217	542	351	47
Connecticut	10,284	1,250	73	1,566	4,859	2,257	279
Middle Atlantic:							
New York	153,037	9,521	1,347	9,749	114,662	13,411	4,347
New Jersey	11,538	265	23	1,747	7,810	1,368	325
Pennsylvania	75,189	3,097	534	9,618	48,652	11,036	2,252
East North Central:							
Ohio	70,882	1,021	324	4,960	38,327	23,842	2,408
Indiana	21,115	509	131	1,215	8,477	9,921	862
Illinois	36,412	202	1,385	1,369	25,124	7,317	1,015
Michigan	46,533	291	429	3,369	32,702	8,296	1,446
Wisconsin	114,917	1,712	1,930	18,727	80,845	7,791	3,912
West North Central:							
Minnesota	32,668	399	483	4,468	22,830	2,508	1,980
Iowa	20,286	271	447	1,716	10,916	3,629	3,307
Missouri	19,037	110	135	760	5,569	10,708	1,755
North Dakota	4,797	226	23	346	2,937	481	784
South Dakota	5,248	85	119	135	4,027	312	570
Nebraska	7,873	74	38	348	5,368	1,275	770
Kansas	17,058	694	141	477	10,408	4,784	554
South Atlantic:							
Delaware	1,691	1		246	1,245	172	27
Maryland	8,668	113	9	1,867	4,073	2,323	283
District of Columbia	186			1	175	10	
Virginia	9,586	25		1,696	4,160	3,223	482
West Virginia	4,450	272	32	333	1,134	2,546	133
North Carolina	7,697	44	1	789	1,613	4,978	272
South Carolina	5,184	4		644	1,008	3,389	139
Georgia	8,727	14	1	305	1,700	6,224	483
Florida	2,930	46		68	337	2,380	99
East South Central:							
Kentucky	8,829	20		40	2,046	6,421	302
Tennessee	11,347	2	1	111	1,383	9,424	426
Alabama	6,108	4	2	46	1,142	4,608	306
Mississippi	8,367	1		101	1,231	6,571	363
West South Central:							
Arkansas	6,950	3	1	19	2,001	4,627	299
Louisiana	3,415	1	2	94	1,009	2,201	108
Oklahoma	9,539	37	3	91	3,741	5,104	563
Texas	23,364	19	7	59	2,973	18,718	1,588
Mountain:							
Montana	3,451	13	54	176	2,453	560	195
Idaho	4,138	46	48	197	2,049	1,579	219
Wyoming	1,071	21	14	31	747	167	91
Colorado	6,448	114	30	241	4,057	1,605	401
New Mexico	1,327			42	438	507	340
Arizona	2,772	109		48	1,778	669	168
Utah	2,922			93	970	1,706	153
Nevada	405	21		10	197	133	44
Pacific:							
Washington	12,720	404	69	941	7,673	3,402	231
Oregon	12,852	323	135	697	3,624	7,771	302
California	19,144	595	36	1,145	12,189	3,832	1,347

[1] Including animals reported as purebred, but with breed not specified.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that have official yearly records*

Breed	Number of cows and heifers	To what date	Milk	Butterfat	
				Quantity	Test
			Pounds	*Pounds*	*Per cent*
Ayshire	6,368	Jan. 1, 1925	10,256	407.48	3.97
Brown Swiss	476	Jan. 1, 1926	12,534	501.60	4.00
Dutch Belted	46	Jan. 1, 1926	10,141	384.64	3.80
Guernsey	20,931	Jan. 1, 1926	9,615	480.10	4.99
Holstein-Friesian	23,622	Jan. 1, 1926	15,697	532.44	3.39
Jersey	22,355	Jan. 1, 1925	8,287	444.37	5.36

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of purebred dairy cattle to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a purebred dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A purebred dairy animal is one that meets the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, and through progressive improvement such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either purebreds or grades; but to prevent misunderstanding it is desirable to precede the breed name with the word "purebred" or "grade."

In addition to the breeds of dairy cattle mentioned, certain other breeds having good milking qualities are kept for dairy purposes. Such cattle, which are often referred to as dual-purpose animals because of their ability to produce satisfactory carcasses as well as a good milk flow, include the Shorthorn, Red Polled, and Devon. The qualities of these are discussed in Farmers' Bulletin 612, "Breeds of Beef Cattle."

REGISTRATION

A purebred dairy animal is one whose sire and dam are eligible to be recorded by name and number in a register of the breed, commonly called the herdbook. An animal thus qualified may itself be recorded in the same herd register, provided the sire and dam are registered, and provided it also qualifies with regard to color. Additional rules and requirements for registration are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the association concerned, as listed on page 30 of this bulletin.

XUM

In addition to the herd register, there is for each breed another register in which are entered the names of purebred cows that have completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The requirements for admission to this special register of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question which breed to choose, and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are: (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with purebreds may feel that since all his neighbors have one breed of cattle, he should get another breed so as to have a monopoly in the business of selling breeding stock. There is no question about the monopoly, but there would probably be no business to monopolize. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed buyers are attracted to the locality because of the better chance to get the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good purebred bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with purebreds. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

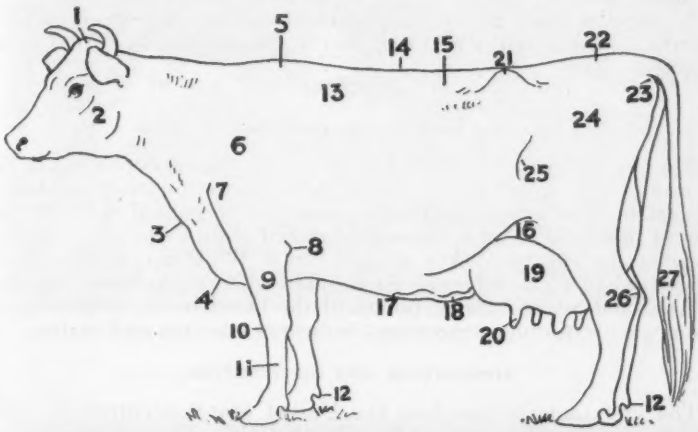
In a district where no breed is established, or in sections where all the different breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder can not shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra fat over the basic test, or deducted from the standard price when



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIG. 1.—Diagram of cow showing names and location of parts

the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds, and, other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success, no matter what breed he selects.

XUM

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful a diagram is given in Figure 1, which names and locates the various parts referred to on the score cards.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. As indicated by Tables 1 and 2, there are about 30,000 registered Ayrshires in the United States and about 400,000 grades carrying more or less Ayrshire blood. These cattle are found scattered through 46 of the 48 States of the Union, though by far the largest numbers are to be found in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even, the teats medium in size and well placed.

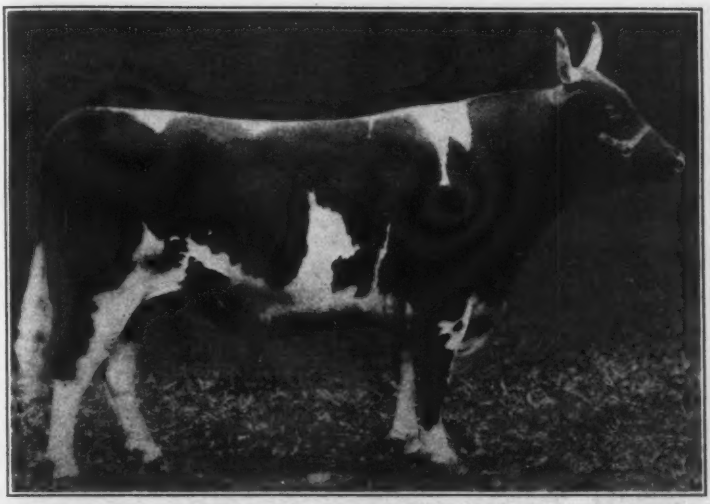


FIG. 2.—Ayrshire bull, Strathglass Roamer 28189. Grand champion, National Dairy Show, 1925

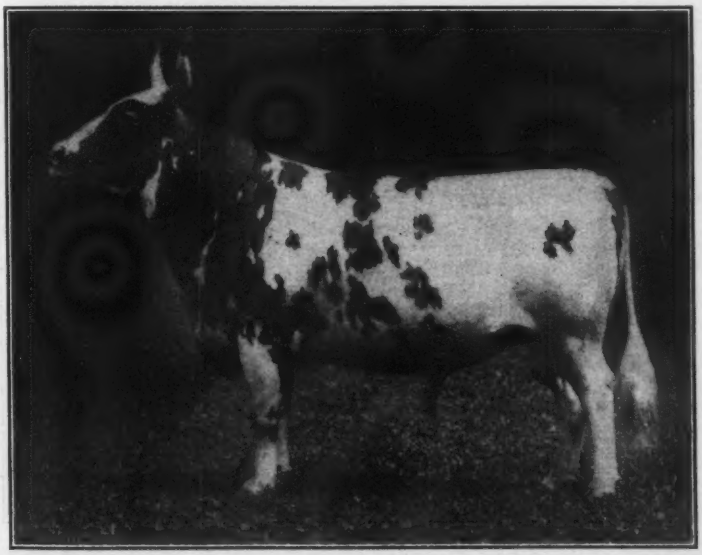


FIG. 3.—Ayrshire bull, Beuchan Peter Pan 12971. Fifty-seven of his daughters are in the Advanced Registry

XUM

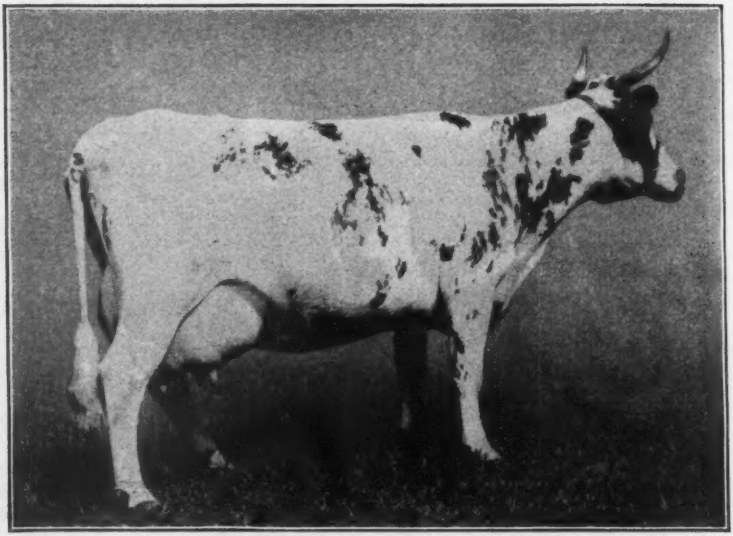


FIG. 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed

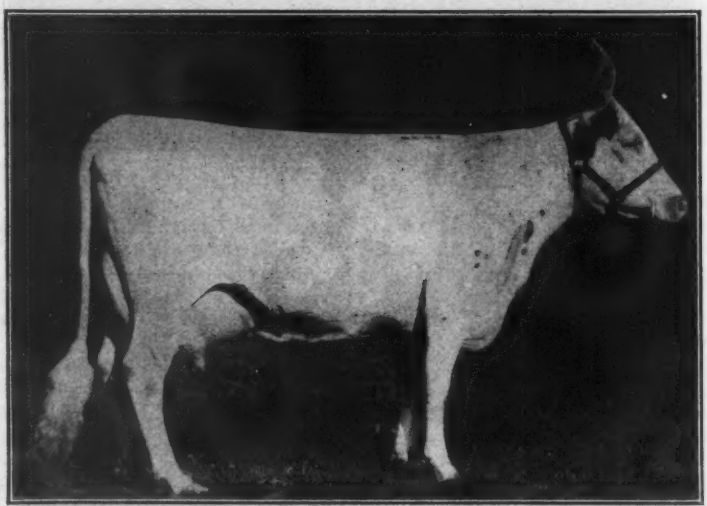


FIG. 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed

Scale of points for Ayrshire cow

Head		10
Forehead, broad and clearly defined	1	
Horns, wide set on and inclining upward	1	
Face, of medium length, slightly dished; clean cut, showing veins	2	
Muzzle, broad and strong without coarseness, nostrils large	1	
Jaws, wide at the base and strong	1	
Eyes, full and bright with placid expression	3	
Ears, of medium size and fine, carried alert	1	
Neck, fine throughout, throat clean, neatly joined to head and shoulders, of good length, moderately thin, nearly free from loose skin, elegant in bearing		3
Fore quarters		10
Shoulders, light, good distance through from point to point but sharp at withers, smoothly blending into body	2	
Chest, low, deep and full between back and forelegs	6	
Brisket, light	1	
Legs and feet, legs straight and short, well apart, shanks fine and smooth, joints firm, feet of medium size, round, solid and deep	1	
Body		13
Back, short and straight, chine lean, sharp and open jointed	4	
Loin, broad, strong, and level	2	
Ribs, long, broad, wide apart, and well sprung	3	
Abdomen, capacious, deep, firmly held up with strong muscular development	3	
Flank, thin and arching	1	
Hind quarters		11
Rump, wide, level, long from hooks to pin bones, a reasonable pelvic arch allowed	3	
Hooks, wide apart and not projecting above back nor unduly overlaid with fat	2	
Pin bones, high, wide apart	1	
Thighs, thin, long, and wide apart	2	
Tail, fine, long, and set on level with back	1	
Legs and feet, legs strong, short, straight, when viewed from behind and set well apart; shanks fine and smooth, joints firm, feet medium size, round, solid, and deep	2	
Udder, long, wide, deep but not pendulous nor fleshy; firmly attached to the body, extending well up behind and far forward; quarters even; sole nearly level and not indented between teats, udder veins well developed and plainly visible		22
Teats, evenly placed, distance apart from side to side equal to half the breadth of udder, from back to front equal to one-third the length; length 2½ to 3½ inches, thickness in keeping with length, hanging perpendicularly and not tapering		8
Mammary veins, large, long, tortuous, branching, and entering large orifices		5
Escutcheon, distinctly defined, spreading over thighs, and extending well upward		2
Color, red of any shade, brown, or these with white; mahogany and white, or white, each color distinctly defined. (Brindle markings allowed but not desired)		2
Covering		6
Skin, medium thickness, mellow, and elastic	3	
Hair, soft and fine	2	
Secretions, oily, of rich brown or yellow color	1	
Style, active, vigorous, showing strong character, temperament inclined to nervousness but still docile		4
Weight, at maturity not less than 1,000 pounds		4
Total		100

XUM

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average of all the dairy breeds. The 6,368 cows and heifers that completed official records up to January 1, 1925, produced an average of 10,256 pounds of milk per cow, containing 407.48 pounds of butterfat, or 3.97 per cent butterfat.

The 10 highest producers of butterfat and milk among the Ayrshires are listed below:

Ten highest Ayrshire yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.56	Garclaugh May Mischief 27944	25,329
Auchenbrain Brown Kate 4th 27943	917.60	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.91	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.33	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.13	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.21	Nancy Whitehall 47810	22,075
Jean Armour 3d 32219	859.65	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.77	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.41	Willowmoor May Mischief 2d A 34173	21,161
Victor's Beauty Rose 44021	840.65	Auchenbrain Yellow Kate 3d 36910	21,123

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1926, are listed below.

Ten Ayrshire sires having the largest number of Advanced-Registry daughters

Sire	Number of daughters	Sire	Number of daughters
Beuchan Peter Pan 12971	57	Nox'emall 7312	35
Finlayston 8882	55	White Cloud of Hickory Island 10377	32
Baron's Best Bargenoch 12858	47	Netherton Statesman 11643	31
Earl's Choice of Spring Hill 8289	43	Kate's Good Gift 15426	30
Kate's Champion of Penhurst 18782	38	Morton Mains Queechy 11537	27

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where it has been developed during many centuries. It is probably one of the oldest breeds in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. A number of importations have been made since, but only in small numbers. After 1906 there were only a few importations because of regulations

due to the prevalence of the foot-and-mouth disease in Europe. As shown in Tables 1 and 2, there are in the United States about 8,000 registered animals, and about 162,000 grades carrying more or less Brown Swiss blood. These are to be found scattered in 37 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio. Of late years the breed has made notable increase in popularity.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh. The calves weigh from 65 to 90 pounds at birth.

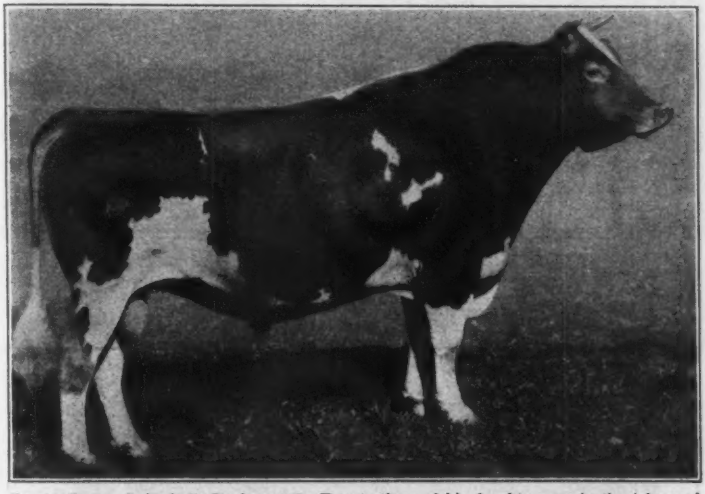


FIG. 6.—Brown Swiss bull, Reuben 2927. Twenty-three of his daughters are in the Advanced Registry

The heifers are slow in maturing. When full grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually a lighter shade than the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

XUM

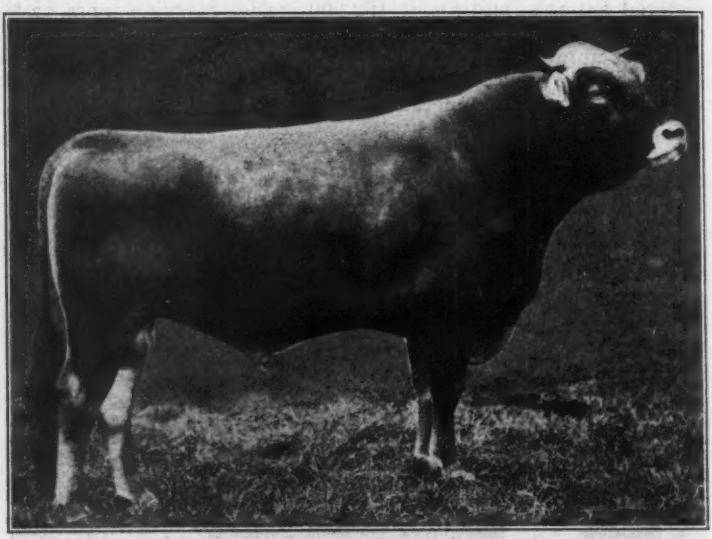


FIG. 7.—Brown Swiss bull, Ursula Stasis 10719. Grand champion, National Dairy Show, 1925

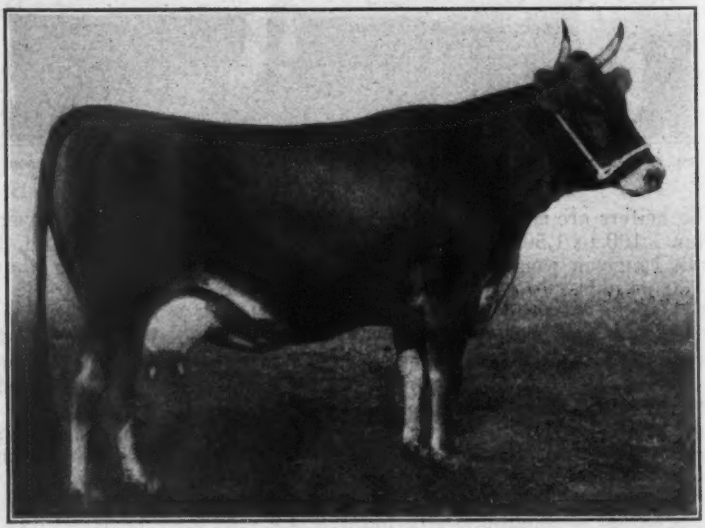


FIG. 8.—Brown Swiss cow, Hawthorn Dairy Maid 6753. One of the high producers of the breed

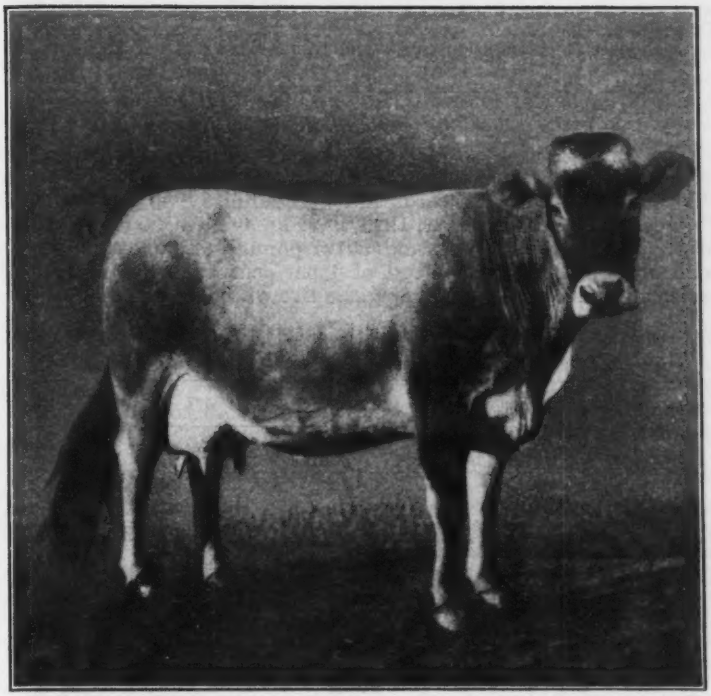


FIG. 9.—Brown Swiss cow, Believe 4245. World's champion of her breed in production of milk

Scale of points for Brown Swiss cow or heifer

Head, medium size and rather long	2
Face, dished, narrow between horns and wide between eyes	2
Ears, large, fringed inside with light-colored hair, skin inside of ear a deep orange color	2
Nose, black, large, and square, with mouth surrounded by mealy colored band, tongue black	2
Eyes, moderately large, full, and bright	2
Horns, short, regularly set with black tips	2
Neck, straight, throat clean, neatly joined to head, shoulders of good length, moderately thin at the withers	4
Chest, low, deep, and full between and back of forelegs	6
Back, level to setting of tail and broad across the loin	6
Ribs, long and broad, wide apart and well sprung, with thin, arching flanks	3
Abdomen, large and deep	5
Hips wide apart, rump long and broad	4
Thighs, wide, quarters not thin	4
Legs, short and straight, with good hoofs	2
Tail, slender, well set on, with good switch	2
Hide of medium thickness, mellow and elastic	3
Color—shades from dark to light brown, at some seasons of the year gray; white splashes near udder not objectionable, light stripe along back. White splashes on body or sides objectionable. Hair between horns usually lighter shade than body	4
Fore udder, wide, deep, well rounded but not pendulous nor fleshy, extending far forward on the abdomen	12
Rear udder, wide, deep, but not pendulous nor fleshy, extending well up behind	12
Teats, rather large, set well apart and hanging straight	8

XUM

Milk veins large, long, tortuous, elastic, and entering good wells	6
Disposition, quiet	2
Size, evidence of constitution, and stamina	5
Total	100

PRODUCTION

The Brown Swiss produces milk of average quality compared with the other breeds of dairy cattle. The 476 cows and heifers that completed yearly records and were admitted to the Register of Production up to January 1, 1926, have an average yearly production of 12,534 pounds of milk and 501.6 pounds of butterfat per cow, with an average butterfat test of 4 per cent. The 10 highest butterfat and milk producers among the Brown Swiss are listed below.

Ten highest Brown Swiss yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
June's College Girl 11427	1,062.30	Believe 4245	25,848
Believe 4245	1,002.62	Alice Lee 2d 8777	24,845
Hawthorn Dairy Maid 6753	927.23	Clothilda Werder's Aggie 10691	22,809
Alice Lee 2d 8777	914.38	Hawthorn Dairy Maid 6753	22,765
Clothilda Werder's Aggie 10691	880.22	Sterling Pride of Lake View 9530	22,597
Goldie Merrillan 12103	873.51	Goldie Merrillan 12103	22,093
Darling D. 8845	860.52	Belle Windsor of Tarpleywick 9000	21,211
Swiss Valley Girl 8th 6574	850.89	Hawthorn Dairy Maid 2d 8550	21,179
Hawthorn Dairy Maid 2d 8550	850.77	Swiss Valley Girl 8th 6574	20,812
Mary Dysart 6791	804.05	Darling D. 8845	20,275

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to January 1, 1926, are listed below.

Ten Brown Swiss sires having the largest number of daughters in Register of Production

Sire	Number of daughters	Sire	Number of daughters
Reuben 2927	23	Vogel's College Boy 5638	8
Junker 2365	10	Casper C. 1999	7
Collier 2075	10	Ben Hanson 2373	7
College Master 2986	10	Sunny Hill Bob 6170	7
Tom Phylis 1769	9	Merney's Second Son 3280	7

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in Holland about two centuries ago. The breed gets its name both from the original home and from the distinctive color marking. This breed has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in America. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. As shown in Table 1, there are about 6,000 purebred Dutch Belted cattle in the United States, and about 150,000 grades.

GENERAL CHARACTERISTICS

Dutch Belted cattle have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof, and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

Scale of points for Dutch Belted cow

Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel large and deep with well-developed abdomen; ribs well rounded and free from fat	10
Hips broad, and chine level, with full loin	10
Rump high, long, and broad	6
Hind quarters long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs short, clean, standing well apart	3
Udder large, well-developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

XUM

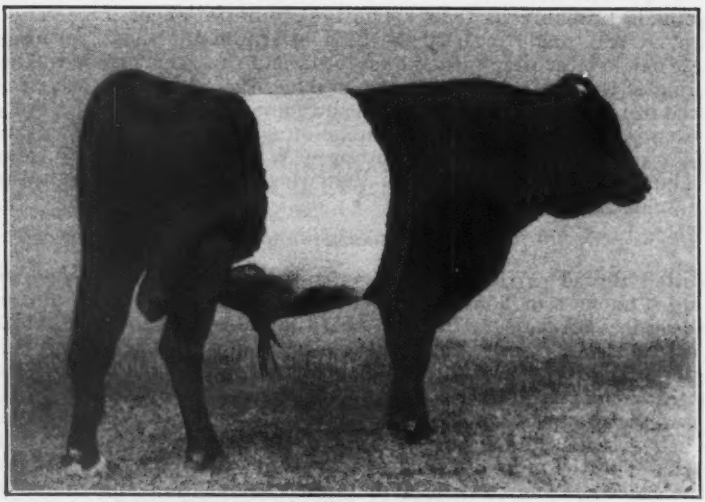


FIG. 10.—Dutch Belted bull, Keith 934. An Advanced-Register sire

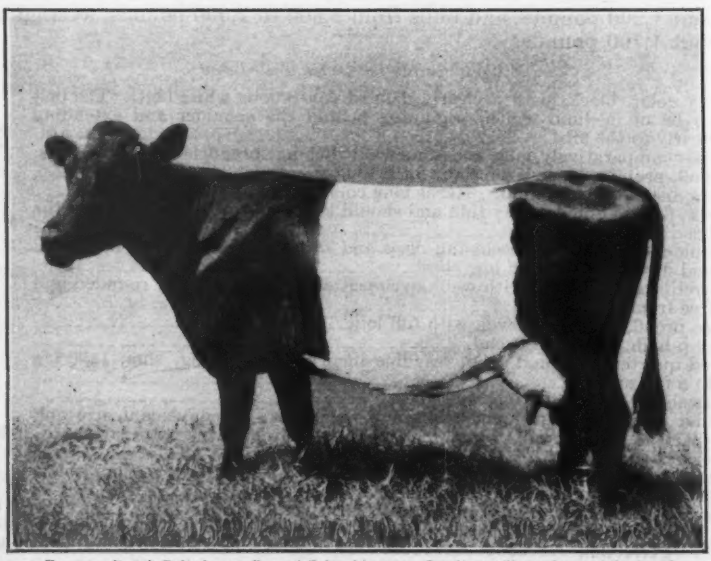


FIG. 11.—Dutch Belted cow, Gem of Columbia 2038. Leading milk producer of the breed

PRODUCTION

By referring to Table 3 it will be seen that the Dutch Belted cow ranks between the Holstein and the Ayrshire in the percentage of butterfat contained in her milk. The Dutch Belted cows and heifers that finished yearly official records up to January 1, 1926, show an average production of 10,141 pounds of milk and 384.64 pounds of butterfat, with an average test of 3.8 per cent.

The 10 highest producers of butterfat and milk among Dutch Belted cows are listed below.

Ten highest Dutch Belted yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Angelina 2641	668.07	Gem of Columbia 2038	17,268
Gem of Columbia 2038	633.86	Angelina 2641	16,023
Glenbeulah's Beauty 2172	531.19	Ferndell 1961	13,478
Priscilla of Lakeview 2937	516.07	Priscilla of Lakeview 2937	13,385
Orange Lilly 3126	504.99	Glenbeulah's Beauty 2172	13,296
Ferndell 1961	501.09	Peapack Anna 1487	13,159
Peapack Anna 1487	484.31	Peapack Dutchess 1390, imported	13,065
Peapack Dutchess 1390, imported	447.64	Orange Lilly 3126	11,575
Fritzi 1832	435.79	Eunice 1597	11,479
Lily of the Dell 2450	434.10	Fritzi 1832	11,353

BULLS

The 10 Dutch Belted sires having the largest number of daughters, with official yearly records, up to January 1, 1926, are listed below.

Dutch Belted sires having two or more daughters with Advanced-Register official yearly records

Defendant 1185.
Keith 934.
Sutton's Gay Lad 494.
Michigans Prince 1258.
Monarch of Lakeview 1219.
Bruce W. 729.
Samoset 1134.
Glenbeulah's Duke 1092.
Columbia King 1015.
Ka No No of Council Grove 1184.

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

XUM

FIG. 12.—Guernsey bull, Yeoman's King of the May 17053. He has 103 daughters in the Advanced Registry

FIG. 13.—Guernsey bull, May Rose Cherub 70934. Grand champion, National Dairy Show, 1925

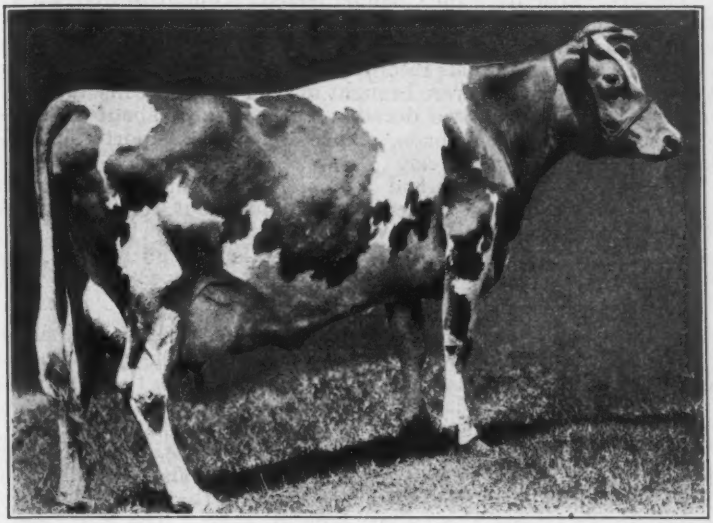


FIG. 14.—Guernsey cow, Anesthesia Faith of Hill Stead 114354. Champion butterfat producer of the breed

FIG. 15.—Guernsey cow, Murne Cowan 19507. Champion milk producer of the breed

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to America were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

According to Tables 1 and 2, there are about 80,000 purebred Guernsey cattle in the United States, and about 1,900,000 grades. They are to be found in every State of the Union, but by far the largest numbers are found in the North Atlantic and North Central States.

GENERAL CHARACTERISTICS

In size the Guernseys are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth, and reach maturity early. When mature the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

Scale of points for Guernsey cow

Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing femininity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel; deep and long with well-sprung ribs. Individual ribs: Long, flat, wide apart, and free from excess tissue	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between the thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern: Strong and springy	2
Hide, loose and pliable, and not thick, with oily feelings; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bone and hair; nicely balanced switch	2

Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins, long, tortuous, prominent and branching with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

PRODUCTION

Guernsey milk has a high per cent of butterfat and a yellow color. The 20,931 cows and heifers that completed official records up to January 1, 1926, produced an average per cow of 9,615.2 pounds of milk and 480.1 pounds of butterfat, the average fat test being 4.99 per cent.

The 10 highest butterfat and milk producers among the Guernseys are listed below.

Ten highest Guernsey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Anesthesia Faith of Hill Stead 114354	1,112.50	Murne Cowan 19597	24,008
Countess Prue 43785	1,103.28	Katherine's Trixie 100396	21,071
Murne Cowan 19597	1,098.18	Gertrude Claire 99550	20,738
May Rilma 22761	1,073.41	Nella Jay 4th 38233	20,710
Gertrude Claire 99550	1,020.00	Molly's Lassie 86472	20,592
Nella Jay 4th 38233	1,019.25	Miss Daisy of Maple Hill 72610	20,315
Langwater Nancy 27943	1,011.66	Tom's Daisy 54541	20,298
Dairy Maid Queen of Spring Hill 74067	1,011.18	Jean Du Luth Coronet 52816	20,004
Langwater Hope 27946	1,003.17	Langwater Hope 27946	19,882
Lillia of Iowa 2d 61500	998.40	Yeksa's Top's of Gold's Fannie 22362	19,795

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to January 1, 1926, are listed below.

Ten Guernsey sires having the largest number of Advanced-Register daughters

Sire	Number of daughters	Sire	Number of daughters
Governor of the Chêne (R. G. A. S. 1297 P. S.)	114	Galaxy's Sequel 16004 (Imp.)	53
Yeoman's King of the May 17053	103	Ne Plus Ultra 15265	48
Langwater Demonstrator 16451	71	Cora's Governor of Chilmark 8971 (Imp.)	47
Masher's Sequel 11462 (Imp.)	70	Beda's May King 11893	45
Clara's Sequel 29414 (Imp.)	58	Florham Laddie 20431	42

XUM

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in northern Holland, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word Holstein is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

According to Tables 1 and 2 there are about 528,000 purebred Holsteins in the United States, and about 10,500,000 grades. Holstein cattle are found throughout all the 48 States of the Union, though by far the largest numbers are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These six States contain more than 60 per cent of the purebred Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

Scale of points for Holstein-Friesian cow

Forehead, broad between the eyes; dishing	2
Face, of medium length; clean cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws strong	3
Ears, of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3

Crops, full; level with the shoulders	5
Chine, straight; strong; broadly developed, with open vertebræ	4
Loin and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 23,622 official records of Holstein cows and heifers that were completed up to January 1, 1926, show an average yearly production of 15,697 pounds of milk and 532.44 pounds of butterfat, the average test being 3.39 per cent.

The 10 highest butterfat and milk producers among the Holsteins are listed below.

Ten highest Holstein yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
De Kol Plus Segis Dixie 295135 [1]	1,349.31	Segis Pietertje Prospect 221846	37,381
May Walker Ollie Homestead 300043	1,218.59	Helm Veeman Woodcrest 486877	36,218
Hollywood Lilith Palmyra Abbekerk 400491	1,206.79	Kolrain Marion Finderne 317396	35,340
		Kolrain Finderne Bess 291570	35,085
Duchess Skylark Ormsby 124514	1,205.09	Nooksack Lunde Oregon De Kol 301119	34,511
Bess Johanna Ormsby 263431	1,198.09	Queen Carlotta De Kol 311674	34,430
Finderne Pride Johanna Rue 121083	1,176.47	Adirondac Wietske Dairy Maid 204072	34,402
Segis Pietertje Prospect 221846	1,158.95	Grahamholm Colantha Pauline Segis 405465	34,292
Dutchland Pietertje Creamelle 394861	1,148.54		
Grahamholm Colantha Pauline Segis 405465	1,141.40	Princess Aaggie Polkadot De Kol 372024	34,071
		Grahamholm Colantha Segis Maid 405466	33,812
Adirondac Wietske Dairy Maid 204072	1,136.15		

[1] Canadian cow.

FIG. 16.—Holstein bull, Sir Pietertje Ormsby Mercedes 44931. He has 65 yearly-record daughters in the Advanced Register

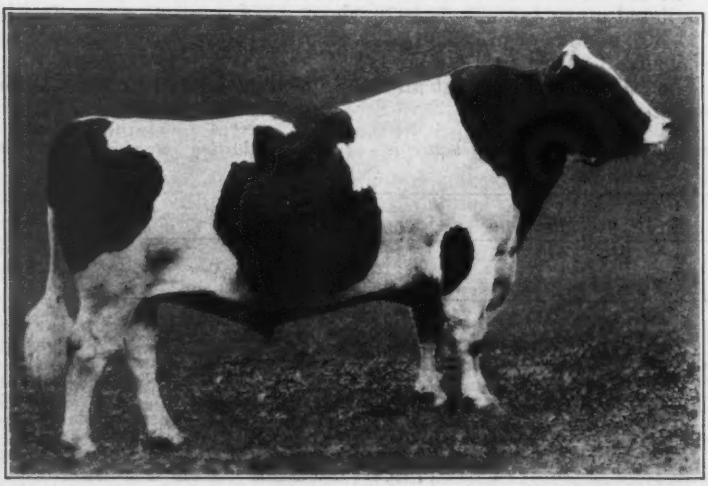


FIG. 17.—Holstein bull, Johanna Rag Apple Pabst 346005. Grand champion, National Dairy Show, 1925

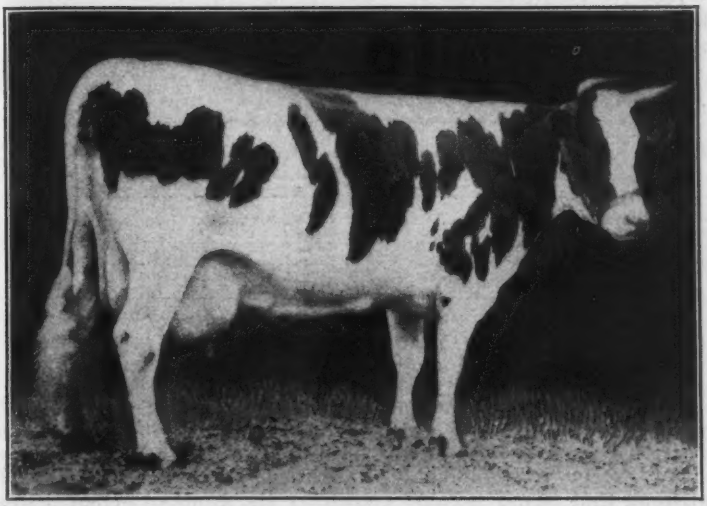


FIG. 18.—Holstein cow, Segis Pietertje Prospect 221846. Has highest yearly milk record of all the breeds

FIG. 19.—De Kol Plus Segis Dixie 295135. Has highest yearly butterfat record of all the breeds (Canadian cow)

BULLS

The 10 Holstein-Friesian sires having the largest number of daughters with yearly records, up to January 1, 1926, are listed below.

Ten Holstein sires with the largest number of yearly-record daughters

Sire	Number of daughters	Sire	Number of daughters
Sir Inka Prilly Segis 80914	71	Sir Pietertje Ormsby Mercedes 44931	65
Judge Segis 80912	67	Woodcrest Tehee 74219	62
Sir Johanna Fayne 42147	67	Colantha Sir Walker Korndyke 95460	60
King Pontiac Champion 53418	65	King of the Pontiacs 39087	52
Matador Segis Walker 148839	65	Ormsby Korndyke Lad 102469	51

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. There were about 232,000 purebred and about 9,300,000 grade Jerseys in this country in 1920, well scattered throughout all the 48 States.

GENERAL CHARACTERISTICS

The Jersey is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common, and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

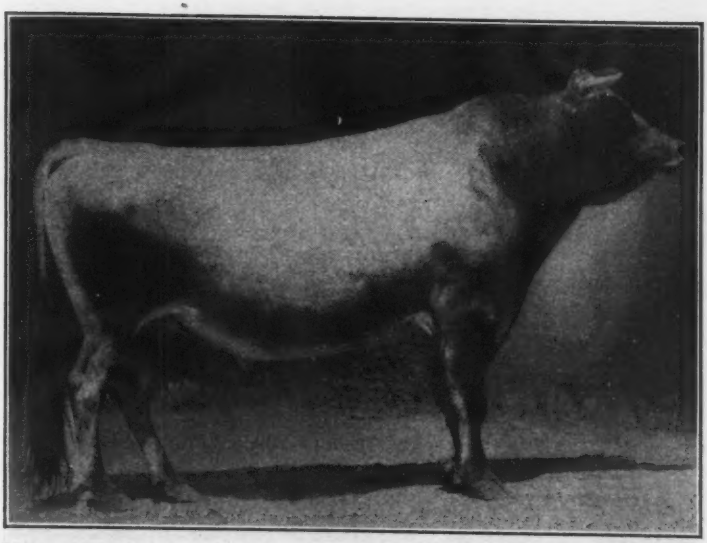


FIG. 20.—Jersey bull, Pogis 99th of Hood Farm 94502. He has 111 daughters in the Register of Merit

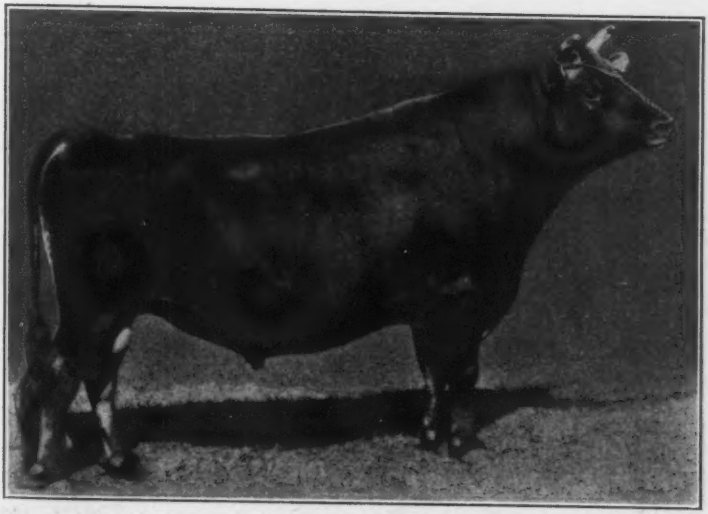


FIG. 21.—Jersey bull, Fern's Rochett Noble 193011. Grand champion, National Dairy Show, 1925

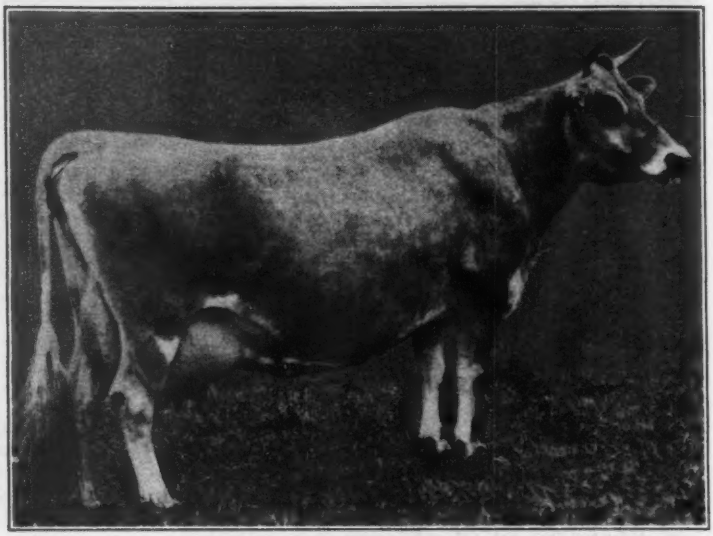


FIG. 22.—Jersey cow, Madeline of Hillside 389336. Champion milk producer of the breed

FIG. 23.—Jersey cow, Darling's Jolly Lassie 435948. Champion butterfat producer of the breed

Scale of points for Jersey cow

DAIRY TEMPERAMENT AND CONSTITUTION

Head, 7:	
A. Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
B. Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong	4
Neck, 4:	
Thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body, 37:	
A. Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
B. Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development	10
C. Back straight and strong, with prominent spinal processes; loins broad and strong	5
D. Rump long to tail setting, and level from hip bones to rump bones	6
E. Hip bones high and wide apart	3
F. Thighs flat and wide apart, giving ample room for udder	3
G. Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking	2
H. Hide loose and mellow	2
I. Tail thin, long, with good switch, not coarse at setting on	1

MAMMARY DEVELOPMENT

Udder, 26:	
A. Large size, flexible, and not fleshy	6
B. Broad, level or spherical, not deeply cut between teats	4
C. Fore udder full and well rounded, running well forward of front teats	10
D. Rear udder well rounded, and well out and up behind	6
Teats, 8:	
Of good and uniform length and size, regularly and squarely placed	8
Milk veins, 4:	
Large, long, tortuous and elastic, entering large and numerous orifices	4
Size, 4:	
Mature cows, 800 to 1,000 pounds	4
General appearance, 10:	
A symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal, with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and rich in butterfat. The 22,355 cows and heifers that had Register-of-Merit records up to January 1, 1925, averaged 8,287 pounds of milk and 444.37 pounds of butterfat a year, with an average test of 5.36 per cent.

The 10 highest butterfat and milk producers among the Jerseys are listed below.

Ten highest Jersey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Darling's Jolly Lassie 435948	1,141.28	Madeline of Hillside 389336	20,624
Groff's Constance 367292	1,130.09	Fauvic's Star 313018	20,616
Prince's Emma of H. S. F. 359390	1,109.99	Abigail of Hillside 457241	20,389
Lad's Iota 350672	1,048.07	Passport 219742	19,695
Fauvic Ruth 385463	1,047.28	Lad's Likeness 338246	19,223
Madeline of Hillside 389336	1,044.05	Eminent's Jimp's Owl 297471	19,099
Plain Mary 268206	1,040.08	St. Mawes Blossom Rosaire 355800	19,061
Vive La France 319616	1,039.29	Miss Inez 377204	18,917
Lady's Silken Glow 313311	1,038.70	Raleigh's Sybil 372752	18,847
St. Mawes Lad's Lady 451568	1,032.97	Eminent's Bess 209719	18,783

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to January 1, 1925, are listed below.

Ten Jersey sires with largest number of daughters in Register of Merit

Sire	Number of daughters	Sire	Number of daughters
Pogis 99th of Hood Farm 94502	111	Sophie 19th's Tormentor 113302	73
Imported Oxford You'll Do 111860	83	Dairylike Majesty 198188	72
Royal Majesty of St. Cloud 89541	82	Imported Golden Fern's Noble 145762	65
Hood Farm Pogis 9th 55552	79	Irene's King Pogis 73182	62
Hood Farm Toronto 60326	74	Sayda's Heir 3d 74817	62

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations and their addresses are as follows:

American Guernsey Cattle Club, Peterboro, N. H.
American Jersey Cattle Club, 324 West Twenty-third Street, New York City.
Ayrshire Breeders' Association, Brandon, Vt.
Brown Swiss Cattle Breeders' Association, Beloit, Wis.
Dutch Belted Cattle Association of America, Rockville, Conn.
Holstein-Friesian Association of America, Brattleboro, Vt.

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DAIRY CATTLE BREEDS

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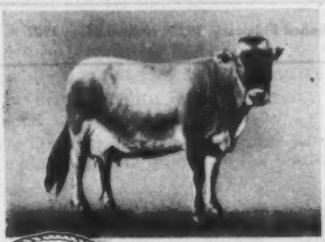


XUM

SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

Washington, D.C. Issued February, 1925; revised May, 1927

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *Dairy Husbandman, Bureau of Dairy Industry*

CONTENTS

	Page		Page
Dairy cattle in the United States	1	Brown Swiss	10
What is a dairy breed?	3	Dutch Belted	14
Registration	3	Guernsey	27
Which breed to select	4	Holstein-Friesian	22
The score card	6	Jersey	26
Ayrshire	6	Breed associations	30

DAIRY CATTLE IN THE UNITED STATES

ACCORDING to estimates made by the United States Department of Agriculture there were about 33,000,000 dairy cattle of all ages in the United States on January 1, 1926. Three per cent of these cattle, or about 1,000,000, are purebred, and represent six breeds, namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. The improvement that must be made in the 97 per cent that are not purebred must come largely from the 3 per cent that are purebred. Likewise, any increase in the number of our purebred dairy cows, and even the maintenance of our grade dairy herds at their present number and efficiency, will be accomplished principally through the use of purebred bulls. For these reasons purebred dairy cattle have played in the past and will play in the future a very important rôle in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various breeds in the United States, by sections and by States. The information in Table 1, showing total number of each breed on January 1, 1920, was brought out by an inquiry sent to 14,000 special livestock reporters of the branch then known as the Bureau of Markets and Crop Estimates of the United States Department of Agriculture. Grades and scrubs were listed with the respective breeds to which they seemed to belong.

Table 2 shows the number of registered purebreds of the dairy breeds on January 1, 1920, as ascertained by the census.

Table 3 gives the average annual production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 1.—*Estimated number and percentage of cattle of dairy breeds, including purebreds and grades, in the United States, January 1, 1920, by sections*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Ayrshire	412,000	1.8	5.8	0.8	1.9	0.7	----------	0.8
Brown Swiss	170,000	.7	.5	1.3	1.3	.3	----------	.4
Dutch Belted	157,000	.7	.5	.2	.6	.3	2.3	----------
Guernsey	1,993,000	8.5	10.6	12.1	11.9	8.4	1.3	5.1
Holstein-Friesian	11,069,000	47.4	65.3	56.2	54.3	21.1	17.3	58.9
Jersey	9,554,000	40.9	17.3	29.4	30.0	69.2	79.1	34.8
Total	23,355,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1920, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	916,602	30,509	8,283	79,446	528,621	231,834	37,909
Geographic divisions:							
New England	85,724	9,780	349	10,311	42,721	20,305	2,258
Middle Atlantic	239,764	12,883	1,904	21,114	171,124	25,815	6,924
East North Central	289,859	3,735	4,199	29,640	185,475	57,167	9,643
West North Central	106,967	1,859	1,386	8,250	62,055	23,697	9,720
South Atlantic	49,119	519	43	5,949	15,445	25,245	1,918
East South Central	34,651	27	3	298	5,902	27,024	1,397
West South Central	43,268	60	13	263	9,724	30,650	2,558
Mountain	22,534	324	146	838	12,689	6,926	1,611
Pacific	44,716	1,322	240	2,783	23,486	15,005	1,880
New England:							
Maine	15,683	1,134	62	1,836	7,206	4,999	446
New Hampshire	10,750	1,214	75	1,151	6,695	1,348	267
Vermont	28,549	3,808	59	2,193	13,413	8,446	630
Massachusetts	18,807	1,880	80	3,348	10,006	2,904	589
Rhode Island	1,651	494	----------	217	542	351	47
Connecticut	10,284	1,250	73	1,566	4,859	2,257	279
Middle Atlantic:							
New York	153,037	9,521	1,347	9,749	114,662	13,411	4,347
New Jersey	11,538	265	23	1,747	7,810	1,368	325
Pennsylvania	75,189	3,097	534	9,618	48,652	11,036	2,252
East North Central:							
Ohio	70,882	1,021	324	4,960	38,327	23,842	2,408
Indiana	21,115	509	131	1,215	8,477	9,921	862
Illinois	36,412	202	1,385	1,369	25,124	7,317	1,015
Michigan	46,533	291	429	3,369	32,702	8,296	1,446
Wisconsin	114,917	1,712	1,930	18,727	80,845	7,791	3,912
West North Central:							
Minnesota	32,668	399	483	4,468	22,830	2,508	1,980
Iowa	20,286	271	447	1,716	10,916	3,629	3,307
Missouri	19,037	110	135	760	5,569	10,708	1,755
North Dakota	4,797	226	23	346	2,937	481	784
South Dakota	5,248	85	119	135	4,027	312	570
Nebraska	7,873	74	38	348	5,368	1,275	770
Kansas	17,058	694	141	477	10,408	4,784	554
South Atlantic:							
Delaware	1,691	1	----------	246	1,245	172	27
Maryland	8,668	113	9	1,867	4,073	2,323	283
District of Columbia	186	----------	----------	1	175	10	----------
Virginia	9,586	25	----------	1,696	4,160	3,223	482
West Virginia	4,450	272	32	333	1,134	2,546	133
North Carolina	7,697	44	1	789	1,613	4,978	272
South Carolina	5,184	4	----------	644	1,008	3,389	139
Georgia	8,727	14	1	305	1,700	6,224	483
Florida	2,930	46	----------	68	337	2,380	99
East South Central:							
Kentucky	8,829	20	----------	40	2,046	6,421	302
Tennessee	11,347	2	1	111	1,383	9,424	426
Alabama	6,108	4	2	46	1,142	4,608	306
Mississippi	8,367	1	----------	101	1,331	6,571	363
West South Central:							
Arkansas	6,950	3	1	19	2,001	4,627	299
Louisiana	3,415	1	2	94	1,009	2,201	108
Oklahoma	9,539	37	3	91	3,741	5,104	563
Texas	23,364	19	7	59	2,973	18,718	1,588
Mountain:							
Montana	3,451	13	54	176	2,453	560	195
Idaho	4,138	46	48	197	2,049	1,579	219
Wyoming	1,071	21	14	31	747	167	91
Colorado	6,448	114	30	241	4,057	1,605	401
New Mexico	1,327	----------	----------	42	438	507	340
Arizona	2,772	109	----------	48	1,778	669	168
Utah	2,922	----------	----------	93	970	1,706	153
Nevada	405	21	----------	10	197	133	44
Pacific:							
Washington	12,720	404	69	941	7,673	3,402	231
Oregon	12,852	323	135	697	3,624	7,771	302
California	19,144	595	36	1,145	12,189	3,832	1,347

[1] Including animals reported as purebred, but with breed not specified.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that have official yearly records*

Breed	Number of cows and heifers	To what date	Milk	Butterfat	
				Quantity	Test
			Pounds	*Pounds*	*Per cent*
Ayshire	6,368	Jan. 1, 1925	10,256	407.48	3.97
Brown Swiss	476	Jan. 1, 1926	12,534	501.60	4.00
Dutch Belted	46	Jan. 1, 1926	10,141	384.64	3.80
Guernsey	20,931	Jan. 1, 1926	9,615	480.10	4.99
Holstein-Friesian	23,622	Jan. 1, 1926	15,697	532.44	3.39
Jersey	22,355	Jan. 1, 1925	8,287	444.37	5.36

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of purebred dairy cattle to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a purebred dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A purebred dairy animal is one that meets the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, and through progressive improvement such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either purebreds or grades; but to prevent misunderstanding it is desirable to precede the breed name with the word "purebred" or "grade."

In addition to the breeds of dairy cattle mentioned, certain other breeds having good milking qualities are kept for dairy purposes. Such cattle, which are often referred to as dual-purpose animals because of their ability to produce satisfactory carcasses as well as a good milk flow, include the Shorthorn, Red Polled, and Devon. The qualities of these are discussed in Farmers' Bulletin 612, "Breeds of Beef Cattle."

REGISTRATION

A purebred dairy animal is one whose sire and dam are eligible to be recorded by name and number in a register of the breed, commonly called the herdbook. An animal thus qualified may itself be recorded in the same herd register, provided the sire and dam are registered, and provided it also qualifies with regard to color. Additional rules and requirements for registration are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the association concerned, as listed on page 30 of this bulletin.

XUM

In addition to the herd register, there is for each breed another register in which are entered the names of purebred cows that have completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The requirements for admission to this special register of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question which breed to choose, and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are: (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with purebreds may feel that since all his neighbors have one breed of cattle, he should get another breed so as to have a monopoly in the business of selling breeding stock. There is no question about the monopoly, but there would probably be no business to monópolize. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed buyers are attracted to the locality because of the better chance to get the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good purebred bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with purebreds. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

In a district where no breed is established, or in sections where all the different breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

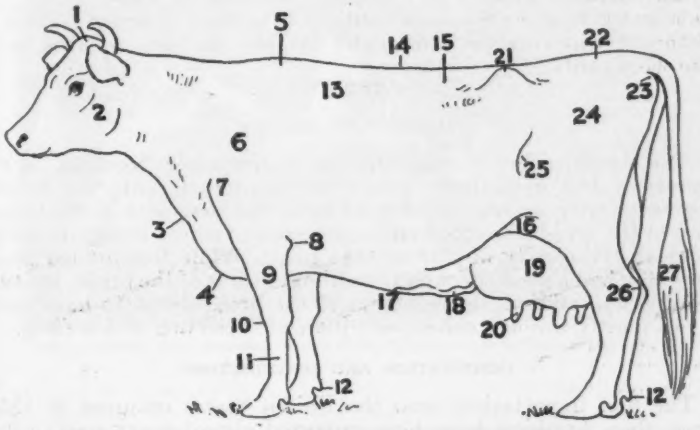
Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

XUM

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder can not shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra fat over the basic test, or deducted from the standard price when



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIG. 1.—Diagram of cow showing names and location of parts

the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds, and, other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success, no matter what breed he selects.

XUM

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful a diagram is given in Figure 1, which names and locates the various parts referred to on the score cards.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. As indicated by Tables 1 and 2, there are about 30,000 registered Ayrshires in the United States and about 400,000 grades carrying more or less Ayrshire blood. These cattle are found scattered through 46 of the 48 States of the Union, though by far the largest numbers are to be found in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even, the teats medium in size and well placed.

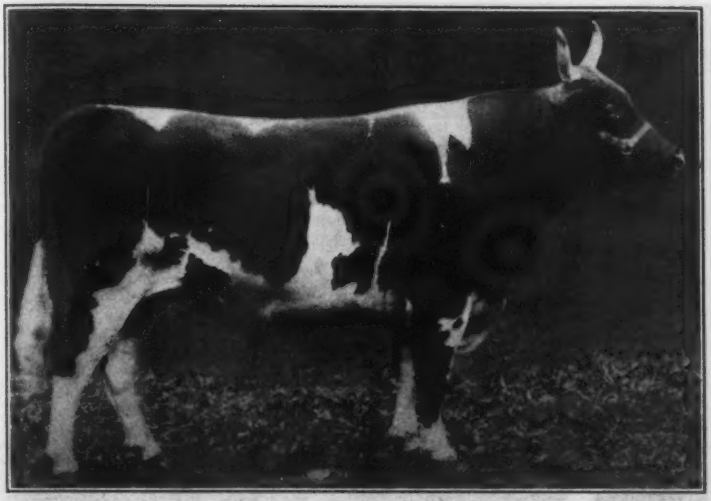


FIG. 2.—Ayrshire bull, Strathglass Roamer 28189. Grand champion, National Dairy Show, 1925

FIG. 3.—Ayrshire bull, Beuchan Peter Pan 12971. Fifty-seven of his daughters are in the Advanced Registry

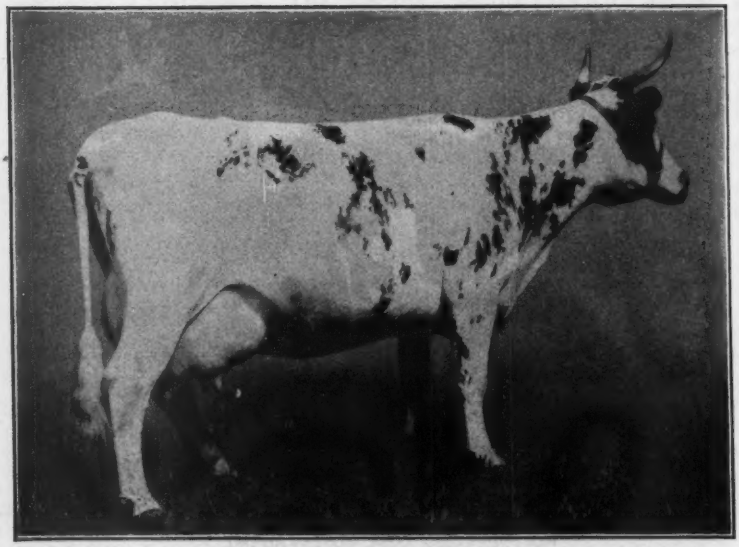


FIG. 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed

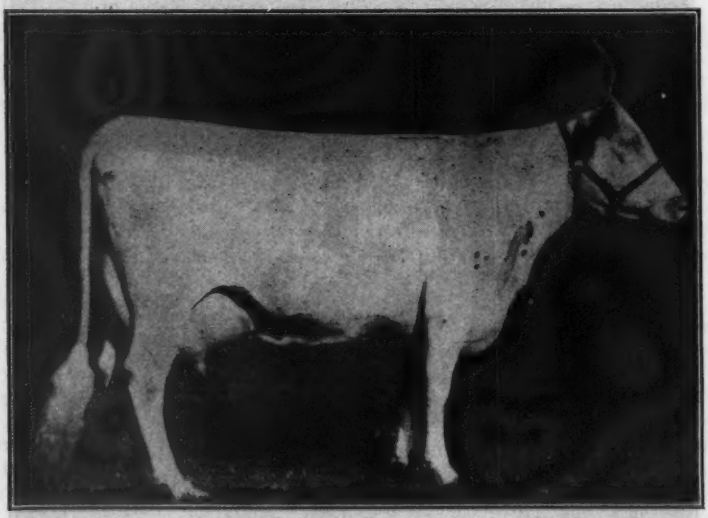


FIG. 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed

Scale of points for Ayrshire cow

Head		10
Forehead, broad and clearly defined	1	
Horns, wide set on and inclining upward	1	
Face, of medium length, slightly dished; clean cut, showing veins	2	
Muzzle, broad and strong without coarseness, nostrils large	1	
Jaws, wide at the base and strong	1	
Eyes, full and bright with placid expression	3	
Ears, of medium size and fine, carried alert	1	
Neck, fine throughout, throat clean, neatly joined to head and shoulders, of good length, moderately thin, nearly free from loose skin, elegant in bearing		3
Fore quarters		10
Shoulders, light, good distance through from point to point but sharp at withers, smoothly blending into body	2	
Chest, low, deep and full between back and forelegs	6	
Brisket, light	1	
Legs and feet, legs straight and short, well apart, shanks fine and smooth, joints firm, feet of medium size, round, solid and deep	1	
Body		13
Back, short and straight, chine lean, sharp and open jointed	4	
Loin, broad, strong, and level	2	
Ribs, long, broad, wide apart, and well sprung	3	
Abdomen, capacious, deep, firmly held up with strong muscular development	3	
Flank, thin and arching	1	
Hind quarters		11
Rump, wide, level, long from hooks to pin bones, a reasonable pelvic arch allowed	3	
Hooks, wide apart and not projecting above back nor unduly overlaid with fat	2	
Pin bones, high, wide apart	1	
Thighs, thin, long, and wide apart	2	
Tail, fine, long, and set on level with back	1	
Legs and feet, legs strong, short, straight, when viewed from behind and set well apart; shanks fine and smooth, joints firm, feet medium size, round, solid, and deep	2	
Udder, long, wide, deep but not pendulous nor fleshy; firmly attached to the body, extending well up behind and far forward; quarters even; sole nearly level and not indented between teats, udder veins well developed and plainly visible		22
Teats, evenly placed, distance apart from side to side equal to half the breadth of udder, from back to front equal to one-third the length; length 2½ to 3½ inches, thickness in keeping with length, hanging perpendicularly and not tapering		8
Mammary veins, large, long, tortuous, branching, and entering large orifices		5
Escutcheon, distinctly defined, spreading over thighs, and extending well upward		2
Color, red of any shade, brown, or these with white; mahogany and white, or white, each color distinctly defined. (Brindle markings allowed but not desired)		2
Covering		6
Skin, medium thickness, mellow, and elastic	3	
Hair, soft and fine	2	
Secretions, oily, of rich brown or yellow color	1	
Style, active, vigorous, showing strong character, temperament inclined to nervousness but still docile		4
Weight, at maturity not less than 1,000 pounds		4
Total		100

XUM

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average of all the dairy breeds. The 6,368 cows and heifers that completed official records up to January 1, 1925, produced an average of 10,256 pounds of milk per cow, containing 407.48 pounds of butterfat, or 3.97 per cent butterfat.

The 10 highest producers of butterfat and milk among the Ayrshires are listed below:

Ten highest Ayrshire yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.56	Garclaugh May Mischief 27944	25,329
Vis Bountiful Lassie 58096	923.21	Vis Bountiful Lassie 58096	24,558
Auchenbrain Brown Kate 4th 27943	917.60	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.91	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.33	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.13	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.21	Nancy Whitehall 47810	22,075
Jean Armour 3d 32219	859.65	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.77	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.41	Willowmoor May Mischief 2d A 34173	21,161

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1926, are listed below.

Ten Ayrshire sires having the largest number of Advanced-Registry daughters

Sire	Number of daughters	Sire	Number of daughters
Beuchan Peter Pan 12971	57	Nox'emall 7312	35
Finlayston 8882	55	White Cloud of Hickory Island 10377	32
Baron's Best Bargenoch 12858	47	Netherton Statesman 11643	31
Earl's Choice of Spring Hill 8280	43	Kate's Good Gift 15426	30
Kate's Champion of Penhurst 18782	38	Morton Mains Queechy 11537	27

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where it has been developed during many centuries. It is probably one of the oldest breeds in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. A number of importations have been made since, but only in small numbers. After 1906 there were only a few importations because of regulations

due to the prevalence of the foot-and-mouth disease in Europe. As shown in Tables 1 and 2, there are in the United States about 8,000 registered animals, and about 162,000 grades carrying more or less Brown Swiss blood. These are to be found scattered in 37 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio. Of late years the breed has made notable increase in popularity.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh. The calves weigh from 65 to 90 pounds at birth.

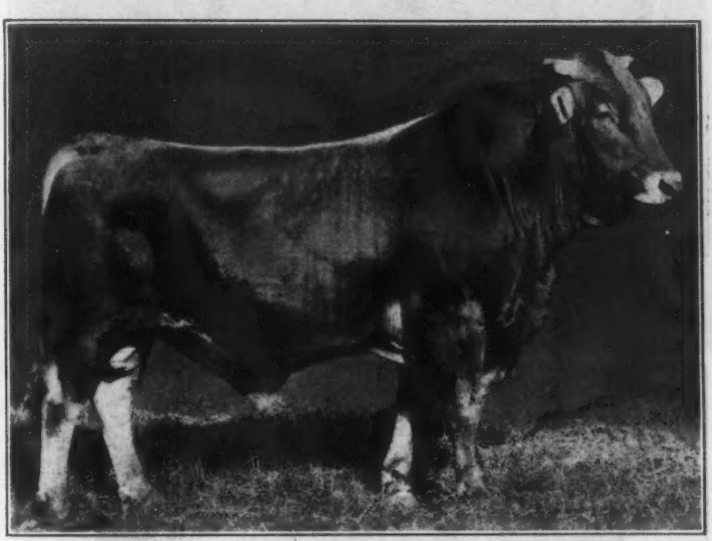


FIG. 6.—Brown Swiss bull, Reuben 2927. Twenty-three of his daughters are in the Advanced Registry

The heifers are slow in maturing. When full grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually a lighter shade than the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

XUM

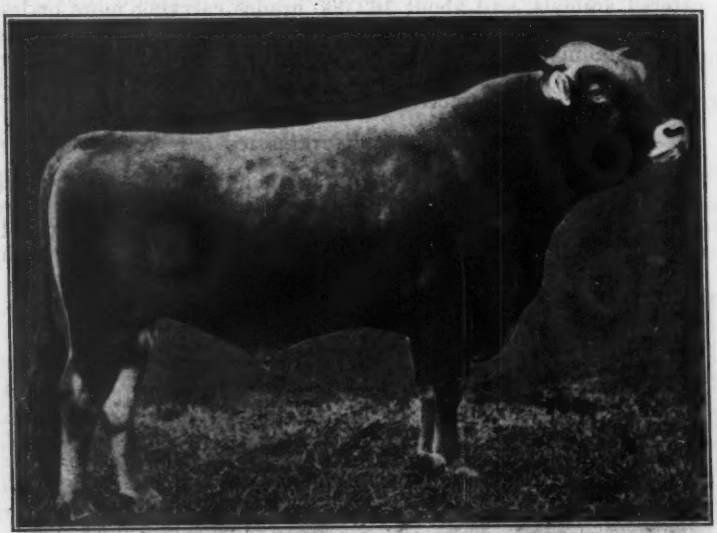


FIG. 7.—Brown Swiss bull, Ursula Stasia 10719. Grand champion, National Dairy Show, 1925

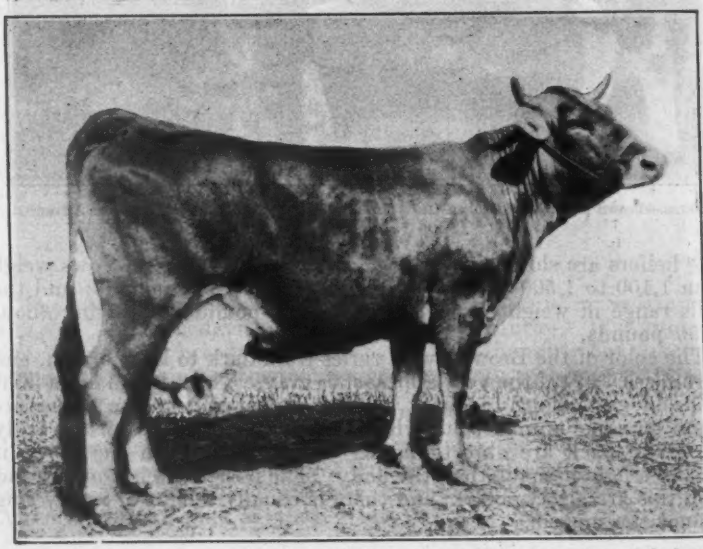


FIG. 8.—Brown Swiss cow, June's College Girl 11427. Champion butterfat producer of the breed

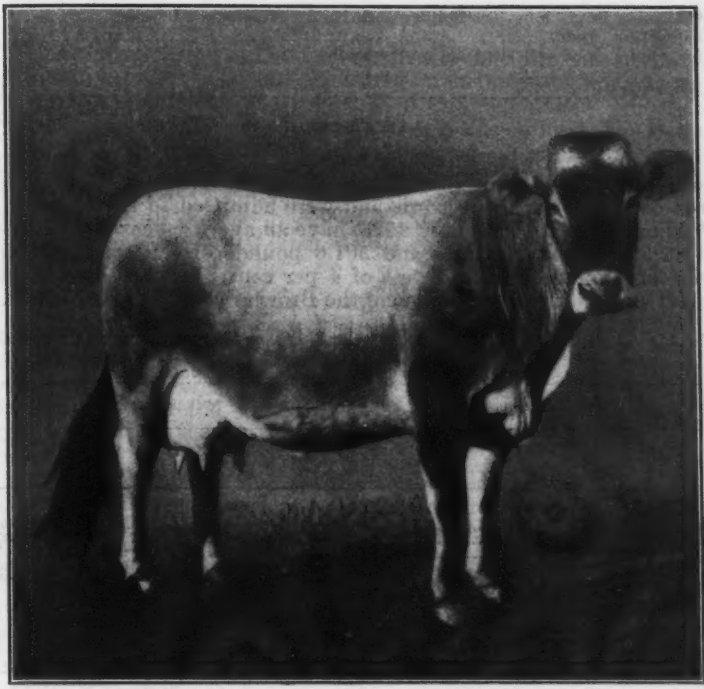


FIG. 9.—Brown Swiss cow, Believe 4245. World's champion of her breed in production of milk

Scale of points for Brown Swiss cow or heifer

Head, medium size and rather long	2
Face, dished, narrow between horns and wide between eyes	2
Ears, large, fringed inside with light-colored hair, skin inside of ear a deep orange color	2
Nose, black, large, and square, with mouth surrounded by mealy colored band, tongue black	2
Eyes, moderately large, full, and bright	2
Horns, short, regularly set with black tips	2
Neck, straight, throat clean, neatly joined to head, shoulders of good length, moderately thin at the withers	4
Chest, low, deep, and full between and back of forelegs	6
Back, level to setting of tail and broad across the loin	6
Ribs, long and broad, wide apart and well sprung, with thin, arching flanks	3
Abdomen, large and deep	5
Hips wide apart, rump long and broad	4
Thighs, wide, quarters not thin	4
Legs, short and straight, with good hoofs	2
Tail, slender, well set on, with good switch	2
Hide of medium thickness, mellow and elastic	3
Color—shades from dark to light brown, at some seasons of the year gray; white splashes near udder not objectionable, light stripe along back. White splashes on body or sides objectionable. Hair between horns usually lighter shade than body	4
Fore udder, wide, deep, well rounded but not pendulous nor fleshy, extending far forward on the abdomen	12
Rear udder, wide, deep, but not pendulous nor fleshy, extending well up behind	12
Teats, rather large, set well apart and hanging straight	8

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Milk veins large, long, tortuous, elastic, and entering good wells	6
Disposition, quiet	2
Size, evidence of constitution, and stamina	5
Total	100

PRODUCTION

The Brown Swiss produces milk of average quality compared with the other breeds of dairy cattle. The 476 cows and heifers that completed yearly records and were admitted to the Register of Production up to January 1, 1926, have an average yearly production of 12,534 pounds of milk and 501.6 pounds of butterfat per cow, with an average butterfat test of 4 per cent. The 10 highest butterfat and milk producers among the Brown Swiss are listed below.

Ten highest Brown Swiss yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
June's College Girl 11427	1,062.30	Believe 4245	25,848
Believe 4245	1,002.62	Alice Lee 2d 8777	24,845
Hawthorn Dairy Maid 6753	927.23	June's College Girl 11427	24,571.6
Alice Lee 2d 8777	914.38	Clothilda Werder's Aggie 10691	22,809
Clothilda Werder's Aggie 10691	880.22	Hawthorn Dairy Maid 6753	22,765
Goldie Merrillan 12103	873.51	Sterling Pride of Lake View 9530	22,597
Darling D. 8845	860.52	Goldie Merrillan 12103	22,093
Swiss Valley Girl 8th 6574	850.89	Belle Windsor of Tarpleywick 9000	21,211
Hawthorn Dairy Maid 2d 8550	850.77	Hawthorn Dairy Maid 2d 8550	21,179
Millicent of Walhalla 11178	813.94	Swiss Valley Girl 8th 6574	20,812

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to January 1, 1926, are listed below.

Ten Brown Swiss sires having the largest number of daughters in Register of Production

Sire	Number of daughters	Sire	Number of daughters
Reuben 2927	23	Vogel's College Boy 5638	8
Junker 2365	10	Casper C. 1999	7
Collier 2075	10	Ben Hanson 2373	7
College Master 2986	10	Sunny Hill Bob 6170	7
Tom Phylis 1769	9	Merney's Second Son 3280	7

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in Holland about two centuries ago. The breed gets its name both from the original home and from the distinctive color marking. This breed has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in America. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. As shown in Table 1, there are about 6,000 purebred Dutch Belted cattle in the United States, and about 150,000 grades.

GENERAL CHARACTERISTICS

Dutch Belted cattle have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof, and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

Scale of points for Dutch Belted cow

Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel large and deep with well-developed abdomen; ribs well rounded and free from fat	10
Hips broad, and chine level, with full loin	10
Rump high, long, and broad	6
Hind quarters long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs short, clean, standing well apart	3
Udder large, well-developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

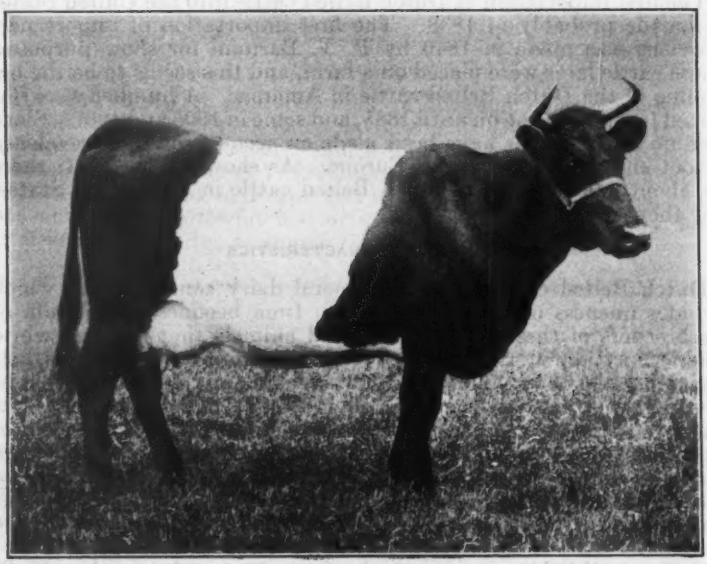

FIG. 10.—Dutch Belted cow, Angelina 2641. Leading butterfat producer of the breed

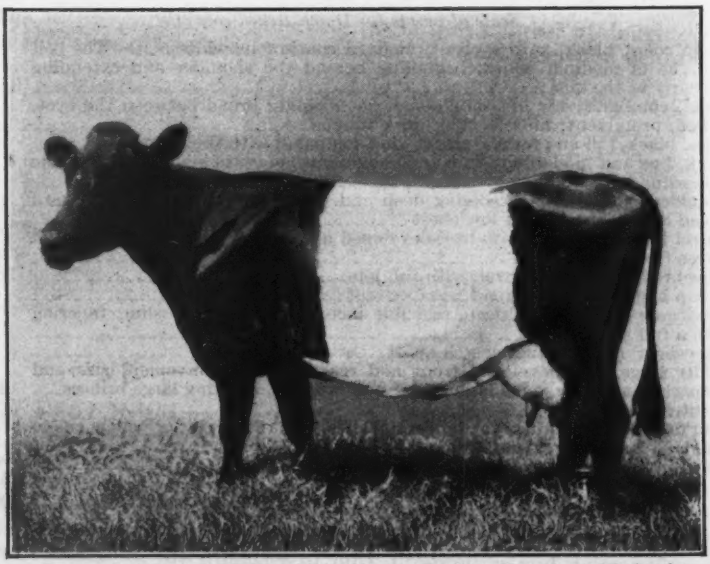

FIG. 11.—Dutch Belted cow, Gem of Columbia 2033. Leading milk producer of the breed

PRODUCTION

By referring to Table 3 it will be seen that the Dutch Belted cow ranks between the Holstein and the Ayrshire in the percentage of butterfat contained in her milk. The Dutch Belted cows and heifers that finished yearly official records up to January 1, 1926, show an average production of 10,141 pounds of milk and 384.64 pounds of butterfat, with an average test of 3.8 per cent.

The 10 highest producers of butterfat and milk among Dutch Belted cows are listed below.

Ten highest Dutch Belted yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Angelina 2641	668.07	Gem of Columbia 2038	17,268
Gem of Columbia 2038	633.86	Angelina 2641	16,023
Glenbeulah's Beauty 2172	531.19	Ferndell 1961	13,478
Priscilla of Lakeview 2937	516.07	Priscilla of Lakeview 2937	13,385
Orange Lilly 3126	504.99	Glenbeulah's Beauty 2172	13,296
Ferndell 1961	501.09	Peapack Anna 1487	13,159
Peapack Anna 1487	484.31	Peapack Dutchess 1390, imported	13,065
Peapack Dutchess 1390, imported	447.64	Orange Lilly 3126	11,875
Fritzi 1832	435.79	Eunice 1597	11,479
Lily of the Dell 2450	434.10	Fritzi 1832	11,353

BULLS

The 10 Dutch Belted sires having the largest number of daughters, with official yearly records, up to January 1, 1926, are listed below.

Dutch Belted sires having two or more daughters with Advanced-Register official yearly records

Defendant 1185.
Keith 934.
Sutton's Gay Lad 494.
Michigans Prince 1258.
Monarch of Lakeview 1219.
Bruce W. 729.
Samoset 1134.
Glenbeulah's Duke 1092.
Columbia King 1015.
Ka No No of Council Grove 1184.

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

XUM

FIG. 12.—Guernsey bull, Yeoman's King of the May 17053. He has 103 daughters in the Advanced Registry

FIG. 13.—Guernsey bull, May Rose Cherub 70934. Grand champion, National Dairy Show, 1925

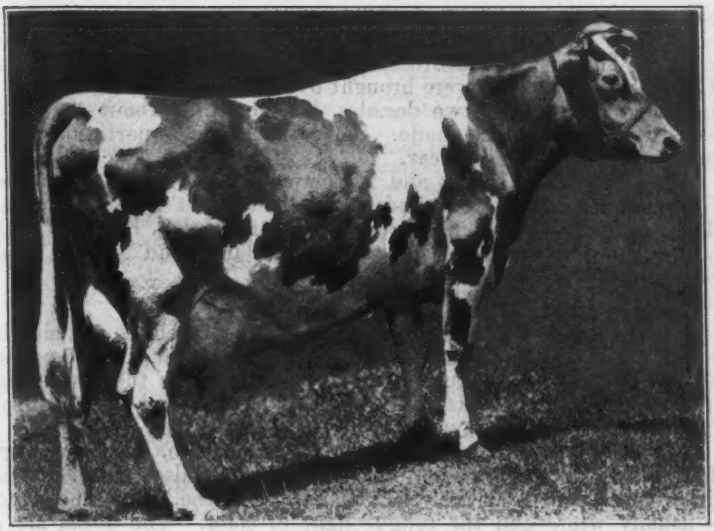

FIG. 14.—Guernsey cow, Anesthesia Faith of Hill Stead 114354. Champion butterfat producer of the breed

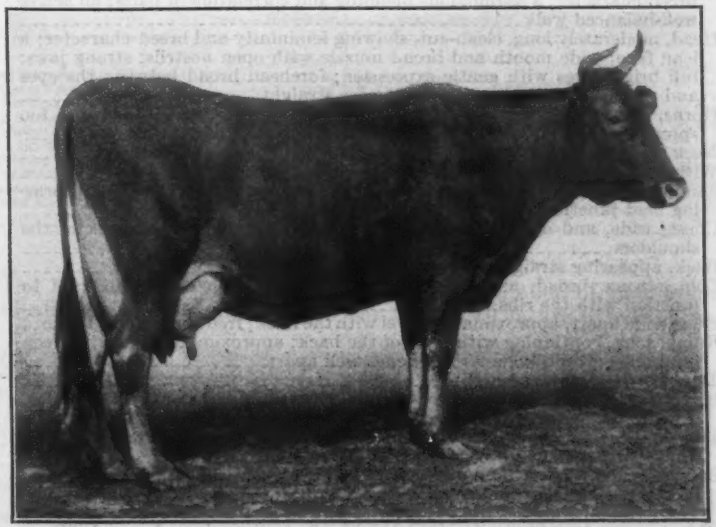

FIG. 15.—Guernsey cow, Murne Cowan 19597. Champion milk producer of the breed

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to America were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

According to Tables 1 and 2, there are about 80,000 purebred Guernsey cattle in the United States, and about 1,900,000 grades. They are to be found in every State of the Union, but by far the largest numbers are found in the North Atlantic and North Central States.

GENERAL CHARACTERISTICS

In size the Guernseys are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth, and reach maturity early. When mature the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

Scale of points for Guernsey cow

Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing femininity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel; deep and long with well-sprung ribs. Individual ribs: Long, flat, wide apart, and free from excess tissue	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between the thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern: Strong and springy	2
Hide, loose and pliable, and not thick, with oily feelings; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bone and hair; nicely balanced switch	2

Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins, long, tortuous, prominent and branching with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

PRODUCTION

Guernsey milk has a high per cent of butterfat and a yellow color. The 20,931 cows and heifers that completed official records up to January 1, 1926, produced an average per cow of 9,615.2 pounds of milk and 480.1 pounds of butterfat, the average fat test being 4.99 per cent.

The 10 highest butterfat and milk producers among the Guernseys are listed below.

Ten highest Guernsey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Anesthesia Faith of Hill Stead 114354	1,112.50	Murne Cowan 19597	24,008
Countess Prue 43785	1,103.28	Katherine's Trixie 100396	21,071
Murne Cowan 19597	1,098.18	Gertrude Claire 99550	20,738
May Rilma 22761	1,073.41	Nella Jay 4th 38233	20,710
Gertrude Claire 99550	1,020.00	Molly's Lassie 86472	20,502
Nella Jay 4th 38233	1,019.25	Miss Daisy of Maple Hill 72610	20,315
Langwater Nancy 27943	1,011.66	Tom's Daisy 54541	20,298
Dairy Maid Queen of Spring Hill 74067	1,011.18	Jean Du Luth Coronet 52816	20,004
Langwater Hope 27946	1,003.17	Langwater Hope 27946	19,882
Lillia of Iowa 2d 61500	998.40	Yeksa's Top's of Gold's Fannie 22362	19,795

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to January 1, 1926, are listed below.

Ten Guernsey sires having the largest number of Advanced-Register daughters

Sire	Number of daughters	Sire	Number of daughters
Governor of the Chêne (R. G. A. S. 1297 P. S.)	114	Galaxy's Sequel 16904 (Imp.)	53
Yeoman's King of the May 17053	103	Ne Plus Ultra 15265	48
Langwater Demonstrator 16451	71	Cora's Governor of Chilmark 8071 (Imp.)	47
Masher's Sequel 11462 (Imp.)	70	Beda's May King 11803	45
Clara's Sequel 29414 (Imp.)	58	Florham Laddie 20431	42

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in northern Holland, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word Holstein is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

According to Tables 1 and 2 there are about 528,000 purebred Holsteins in the United States, and about 10,500,000 grades. Holstein cattle are found throughout all the 48 States of the Union, though by far the largest numbers are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These six States contain more than 60 per cent of the purebred Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

Scale of points for Holstein-Friesian cow

Forehead, broad between the eyes; dishing	2
Face, of medium length; clean cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws strong	3
Ears, of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3

Crops, full; level with the shoulders	5
Chine, straight; strong; broadly developed, with open vertebræ	4
Loin and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 23,622 official records of Holstein cows and heifers that were completed up to January 1, 1926, show an average yearly production of 15,697 pounds of milk and 532.44 pounds of butterfat, the average test being 3.39 per cent.

The 10 highest butterfat and milk producers among the Holsteins are listed below.

Ten highest Holstein yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
De Kol Pius Segis Dixie 295135 [1]	1,349.31	Segis Pietertje Prospect 221846	37,381
May Walker Ollie Homestead 300043	1,218.59	Helm Veeman Woodcrest 486877	36,218
Hollywood Lilith Palmyra Abbekerk 400491	1,206.79	Kolrain Marion Finderne 317396	35,340
Duchess Skylark Ormsby 124514	1,205.09	Kolrain Finderne Bess 291570	35,085
Bess Johanna Ormsby 263431	1,198.09	Nooksack Lunde Oregon De Kol 301119	34,511
Redfield Segis Johanna 735950	1,182.93	Queen Carlotta De Kol 311674	34,430
Finderne Pride Johanna Rue 121083	1,176.47	Adirondac Wietske Dairy Maid 204072	34,402
Segis Pietertje Prospect 221846	1,158.95	Grahamholm Colantha Pauline Segis 405465	34,292
Dutchland Pietertje Creamelle 394861	1,148.54	Princess Aaggie Folkadot De Kol 372024	34,071
Grahamholm Colantha Pauline Segis 405465	1,141.40	Grahamholm Colantha Segis Maid 405466	33,812

[1] Canadian cow.

FIG. 16.—Holstein bull, Sir Pietertje Ormsby Mercedes 44931. He has 65 yearly-record daughters in the Advanced Register

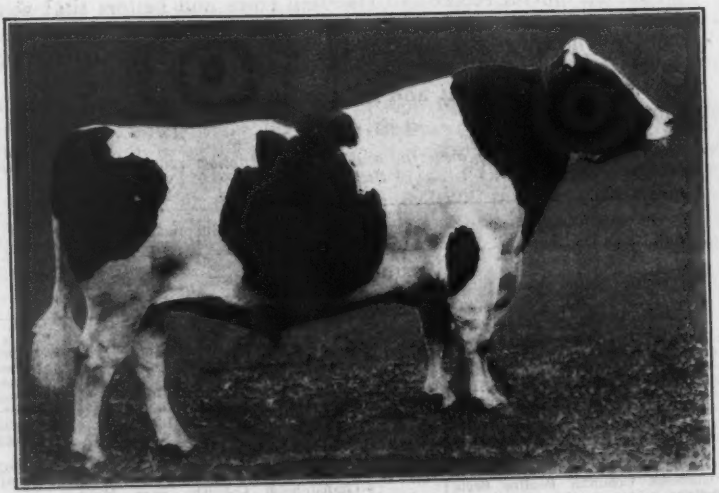

FIG. 17.—Holstein bull, Johanna Rag Apple Pabst 340005. Grand champion, National Dairy Show, 1925

FIG. 18.—Holstein cow, Segis Pietertje Prospect 221846. Has highest yearly milk record of all the breeds

FIG. 19.—De Kol Plus Segis Dixie 295135. Has highest yearly butterfat record of all the breeds (Canadian cow)

BULLS

The 10 Holstein-Friesian sires having the largest number of daughters with yearly records, up to January 1, 1926, are listed below.

Ten Holstein sires with the largest number of yearly-record daughters

Sire	Number of daughters	Sire	Number of daughters
Sir Inka Prilly Segis 80914	71	Sir Pietertje Ormsby Mercedes 44931	65
Judge Segis 80912	67	Woodcrest Tehee 74219	62
Sir Johanna Fayne 42147	67	Colantha Sir Walker Korndyke 95460	60
King Pontiac Champion 53418	65	King of the Pontiacs 39037	52
Matador Segis Walker 148839	65	Ormsby Korndyke Lad 102460	51

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. There were about 232,000 purebred and about 9,300,000 grade Jerseys in this country in 1920, well scattered throughout all the 48 States.

GENERAL CHARACTERISTICS

The Jersey is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common, and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

FIG. 20.—Jersey bull, Pogis 99th of Hood Farm 94502. He has 111 daughters in the Register of Merit

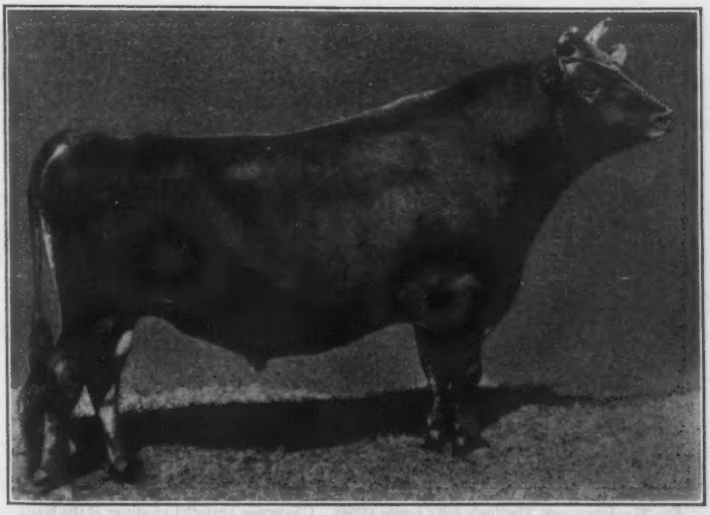

FIG. 21.—Jersey bull, Fern's Rochette Noble 193011. Grand champion, National Dairy Show, 1925

FIG. 22.—Jersey cow, Madeline of Hillside 380336. Champion milk producer of the breed

FIG. 23.—Jersey cow, Darling's Jolly Lassie 435048. Champion butterfat producer of the breed

Scale of points for Jersey cow

DAIRY TEMPERAMENT AND CONSTITUTION

Head, 7:	
A. Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
B. Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong	4
Neck, 4:	
Thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body, 37:	
A. Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
B. Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development	10
C. Back straight and strong, with prominent spinal processes; loins broad and strong	5
D. Rump long to tail setting, and level from hip bones to rump bones	6
E. Hip bones high and wide apart	3
F. Thighs flat and wide apart, giving ample room for udder	3
G. Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking	2
H. Hide loose and mellow	2
I. Tail thin, long, with good switch, not coarse at setting on	1

MAMMARY DEVELOPMENT

Udder, 26:	
A. Large size, flexible, and not fleshy	6
B. Broad, level or spherical, not deeply cut between teats	4
C. Fore udder full and well rounded, running well forward of front teats	10
D. Rear udder well rounded, and well out and up behind	6
Teats, 8:	
Of good and uniform length and size, regularly and squarely placed	8
Milk veins, 4:	
Large, long, tortuous and elastic, entering large and numerous orifices	4
Size, 4:	
Mature cows, 800 to 1,000 pounds	4
General appearance, 10:	
A symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal, with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and rich in butterfat. The 22,355 cows and heifers that had Register-of-Merit records up to January 1, 1925, averaged 8,287 pounds of milk and 444.37 pounds of butterfat a year, with an average test of 5.36 per cent.

The 10 highest butterfat and milk producers among the Jerseys are listed below.

Ten highest Jersey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Darling's Jolly Lassie 435948	1,141.28	Madeline of Hillside 389336	20,624
Groff's Constance 367292	1,130.09	Fauvic's Star 313018	20,616
Prince's Emma of H. S. F. 359390	1,109.99	Abigail of Hillside 457241	20,359
Lad's Iota 350672	1,048.07	Passport 219742	19,695
Fauvic Ruth 385463	1,047.28	Red Lady 396118	19,608
Madeline of Hillside 389336	1,044.05	Lad's Likeness 338246	19,223
Plain Mary 268206	1,040.08	Eminent's Jimp's Owl 297471	19,099
Vive La France 319616	1,039.29	St. Mawes Blossom Rosaire 355800	19,061
Lady's Silken Glow 313311	1,038.70	Miss Inez 377204	18,917
St. Mawes Lad's Lady 451568	1,032.97	Raleigh's Sybil 372752	18,847

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to January 1, 1926, are listed below.

Ten Jersey sires with largest number of daughters in Register of Merit

Sire	Number of daughters	Sire	Number of daughters
Pogis 99th of Hood Farm 94502	113	Sophie 19th's Tormentor 113302	75
Imported Oxford You'll Do 111860	83	Hood Farm Torono 60326	74
Royal Majesty of St. Cloud 89541	83	Imported Golden Fern's Noble 145762	65
Dairylike Majesty 198188	81	Irene's King Pogis 73182	62
Hood Farm Pogis 9th 55552	79	Sayda's Heir 3d 74817	62

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations and their addresses are as follows:

American Guernsey Cattle Club, Peterboro, N. H.
American Jersey Cattle Club, 324 West Twenty-third Street, New York City.
Aryshire Breeders' Association, Brandon, Vt.
Brown Swiss Cattle Breeders' Association, Beloit, Wis.
Dutch Belted Cattle Association of America, Rockville, Conn.
Holstein-Friesian Association of America, Brattleboro, Vt.

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DAIRY CATTLE BREEDS

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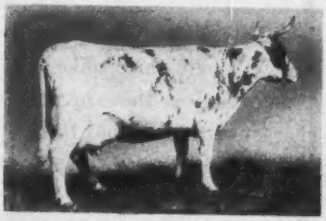
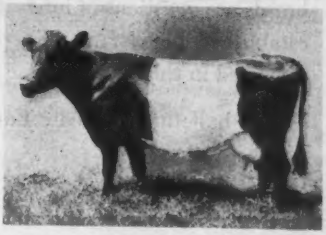
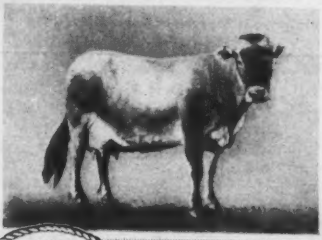


XUM

SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

Washington, D. C. Issued February, 1925; revised September, 1928

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *Senior Dairy Husbandman, Bureau of Dairy Industry*

CONTENTS

	Page		Page
Dairy cattle in the United States	1	Brown Swiss	10
What is a dairy breed?	3	Dutch Belted	14
Registration	3	Guernsey	17
Which breed to select	4	Holstein-Friesian	22
The score card	6	Jersey	26
Ayrshire	6	Breed associations	30

DAIRY CATTLE IN THE UNITED STATES

ACCORDING to estimates made by the United States Department of Agriculture there were about 33,000,000 dairy cattle of all ages in the United States on January 1, 1927. Three per cent of these cattle, or about 1,000,000, are purebred, and represent six breeds, namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. The improvement that must be made in the 97 per cent that are not purebred must come largely from the 3 per cent that are purebred. Likewise, any increase in the number of our purebred dairy cows, and even the maintenance of our grade dairy herds at their present number and efficiency, will be accomplished principally through the use of purebred bulls. For these reasons purebred dairy cattle have played in the past and will play in the future a very important rôle in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various breeds in the United States, by sections and by States. The information in Table 1, showing total number of each breed on January 1, 1920, was brought out by an inquiry sent to 14,000 special livestock reporters of the branch then known as the Bureau of Markets and Crop Estimates of the United States Department of Agriculture. Grades and scrubs were listed with the respective breeds to which they seemed to belong.

Table 2 shows the number of registered purebreds of the dairy breeds on January 1, 1920, as ascertained by the census.

Table 3 gives the average annual production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 1.—*Estimated number and percentage of cattle of dairy breeds, including purebreds and grades, in the United States, January 1, 1920, by sections*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Ayrshire	412,000	1.8	5.8	0.8	1.9	0.7	-------	0.8
Brown Swiss	170,000	.7	.5	1.3	1.3	.3	-------	.4
Dutch Belted	157,000	.7	.5	.2	.6	.3	2.3	-------
Guernsey	1,995,000	8.5	10.6	12.1	11.9	8.4	1.3	5.1
Holstein-Friesian	11,069,000	47.4	65.3	56.2	54.3	21.1	17.3	58.9
Jersey	9,554,000	40.9	17.3	29.4	30.0	69.2	79.1	34.8
Total	23,355,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

XUM

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1920, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	916,602	30,509	8,283	79,446	528,621	231,834	37,909
Geographic divisions:							
New England	85,724	9,780	349	10,311	42,721	20,305	2,258
Middle Atlantic	239,764	12,883	1,904	21,114	171,124	25,815	6,924
East North Central	289,859	3,735	4,199	29,640	185,475	57,167	9,643
West North Central	106,967	1,859	1,386	8,250	62,055	23,697	9,720
South Atlantic	49,119	519	43	5,949	15,445	25,245	1,918
East South Central	34,651	27	2	298	5,902	27,024	1,397
West South Central	43,268	60	13	263	9,724	30,650	2,558
Mountain	22,534	324	146	838	12,689	6,926	1,611
Pacific	44,716	1,322	240	2,783	23,486	15,005	1,880
New England:							
Maine	15,083	1,134	62	1,836	7,206	4,999	446
New Hampshire	10,750	1,214	75	1,151	6,695	1,348	267
Vermont	28,549	3,808	59	2,193	13,413	8,446	630
Massachusetts	18,807	1,880	80	3,348	10,006	2,904	589
Rhode Island	1,651	494		217	542	351	47
Connecticut	10,284	1,250	73	1,566	4,859	2,257	279
Middle Atlantic:							
New York	153,037	9,521	1,347	9,749	114,662	13,411	4,347
New Jersey	11,538	265	23	1,747	7,810	1,368	325
Pennsylvania	75,189	3,097	534	9,618	48,652	11,036	2,252
East North Central:							
Ohio	70,882	1,021	324	4,960	38,327	23,842	2,408
Indiana	21,115	509	131	1,215	8,477	9,921	862
Illinois	36,412	202	1,385	1,369	25,124	7,317	1,015
Michigan	46,533	291	429	3,369	32,702	8,296	1,446
Wisconsin	114,917	1,712	1,930	18,727	80,845	7,791	3,912
West North Central:							
Minnesota	32,668	399	483	4,468	22,830	2,508	1,980
Iowa	20,286	271	447	1,716	10,916	3,629	3,307
Missouri	19,037	110	135	760	5,569	10,708	1,755
North Dakota	4,797	226	25	346	2,937	481	784
South Dakota	5,248	85	119	135	4,027	312	570
Nebraska	7,873	74	38	348	5,368	1,275	770
Kansas	17,058	694	141	477	10,408	4,784	554
South Atlantic:							
Delaware	1,691	1		246	1,245	172	27
Maryland	8,668	113	9	1,867	4,073	2,323	283
District of Columbia	186			1	175	10	
Virginia	9,586	25		1,696	4,160	3,223	482
West Virginia	4,450	272	32	333	1,134	2,546	133
North Carolina	7,697	44	1	789	1,613	4,978	272
South Carolina	5,184	4		644	1,008	3,389	139
Georgia	8,727	14	1	305	1,700	6,224	483
Florida	2,930	46		68	337	2,380	99
East South Central:							
Kentucky	8,829	20		40	2,046	6,421	302
Tennessee	11,347	2	1	111	1,383	9,424	426
Alabama	6,108	4	2	46	1,142	4,608	306
Mississippi	8,367	1		101	1,331	6,571	363
West South Central:							
Arkansas	6,950	3	1	19	2,001	4,627	299
Louisiana	3,415	1	2	94	1,009	2,201	108
Oklahoma	9,539	37	3	91	3,741	5,104	563
Texas	23,364	19	7	59	2,973	18,718	1,588
Mountain:							
Montana	3,451	13	54	176	2,453	560	195
Idaho	4,138	46	48	197	2,049	1,579	219
Wyoming	1,071	21	14	31	747	167	91
Colorado	6,448	114	30	241	4,057	1,605	401
New Mexico	1,327			42	438	507	340
Arizona	2,772	109		48	1,778	669	168
Utah	2,922			93	970	1,706	153
Nevada	405	21		10	197	133	44
Pacific:							
Washington	12,720	404	69	941	7,673	3,402	231
Oregon	12,852	323	135	697	3,624	7,771	302
California	19,144	595	36	1,145	12,189	3,832	1,347

[1] Including animals reported as purebred, but with breed not specified.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that have official yearly records*

Breed	Number of cows and heifers	To what date	Milk	Butterfat	
				Quantity	Test
			Pounds	*Pounds*	*Per ct.*
Ayrshire	7,891	Jan. 1, 1928	10,420	416.0	4.00
Brown Swiss	514	do	12,712	508.7	4.00
Dutch Belted	54	do	10,045	377.1	3.75
Guernsey	24,948	do	9,739	486.1	4.99
Holstein-Friesian	28,283	do	15,759	533.7	3.39
Jersey	27,230	do	8,439	451.7	5.35

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of purebred dairy cattle to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a purebred dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A purebred dairy animal is one that meets the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, and through progressive improvement such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either purebreds or grades; but to prevent misunderstanding it is desirable to precede the breed name with the word "purebred" or "grade."

In addition to the breeds of dairy cattle mentioned, certain other breeds having good milking qualities are kept for dairy purposes. Such cattle, which are often referred to as dual-purpose animals because of their ability to produce satisfactory carcasses as well as a good milk flow, include the Shorthorn, Red Polled, and Devon. The qualities of these are discussed in Farmers' Bulletin 612, "Breeds of Beef Cattle."

REGISTRATION

A purebred dairy animal is one whose sire and dam are eligible to be recorded by name and number in a register of the breed, commonly called the herdbook. An animal thus qualified may itself be recorded in the same herd register, provided the sire and dam are registered, and provided it also qualifies with regard to color. Additional rules and requirements for registration are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the associations concerned, as listed on page 30 of this bulletin.

In addition to the herd register, there is for each breed another register in which are entered the names of purebred cows that have

completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The requirements for admission to this special register of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question which breed to choose, and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are: (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with purebreds may feel that since all his neighbors have one breed of cattle, he should get another breed so as to have a monopoly in the business of selling breeding stock. There is no question about the monopoly, but there would probably be no business to monopolize. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed buyers are attracted to the locality because of the better chance to get the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good purebred bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with purebreds. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

In a district where no breed is established, or in sections where all the different breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

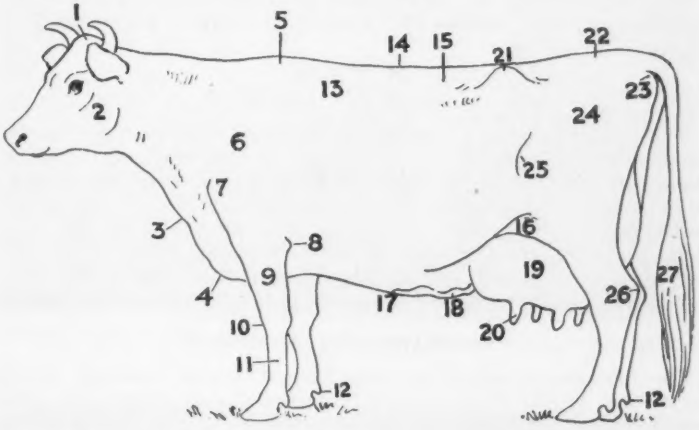
Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

XUM

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder can not shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIG. 1.—Diagram of cow showing names and location of parts

price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds, and other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful a diagram is given in Figure 1, which names and locates the various parts referred to on the score cards.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. As indicated by Tables 1 and 2, there were in 1920 about 30,000 registered Ayrshires in the United States and less than 400,000 grades carrying more or less Ayrshire blood. It is estimated that on January 1, 1928, there were about 40,000 registered Ayrshires in the United States.[1] Ayrshires are scattered through practically all the States, though by far the largest numbers are in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even, the teats medium in size and well placed.

[1] This figure was obtained by assuming that the relation between the number of animals registered 1914–1920 and the number of living animals in 1920 is the same as the relation between the number of animals registered 1921–1927 and the number of living animals in 1927.

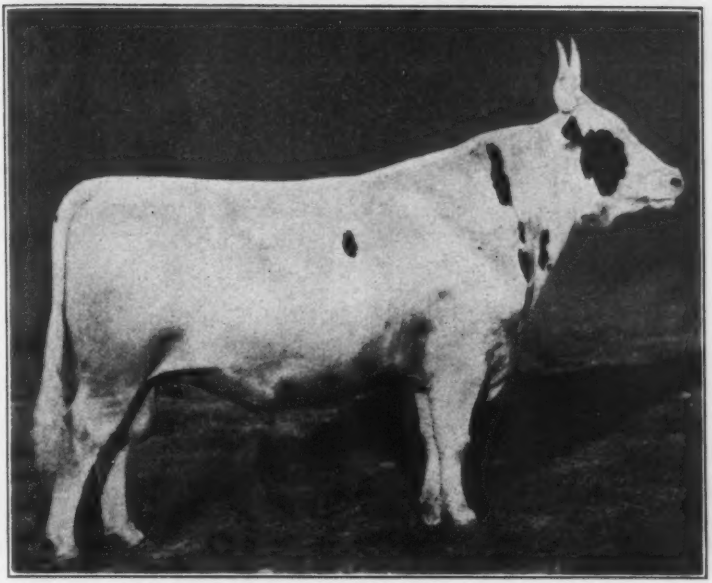


FIG. 2.—Ayrshire bull, Imp. Hobsland White King 23396. Grand champion, National Dairy Show, 1927

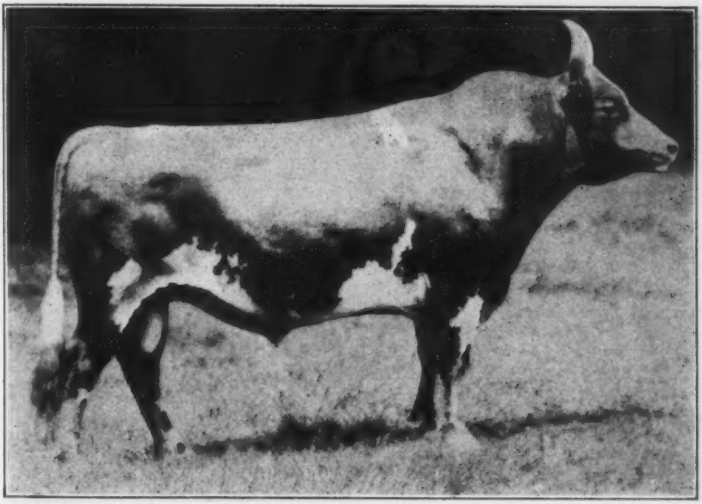


FIG. 3.—Ayrshire bull, Kate's Champion of Penhurst 18782. Sixty-three of his daughters are in the Advanced Registry

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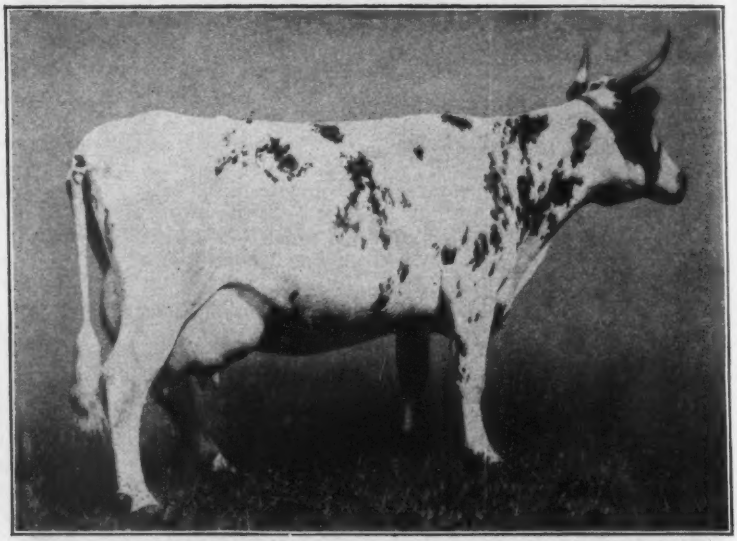

FIG. 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed

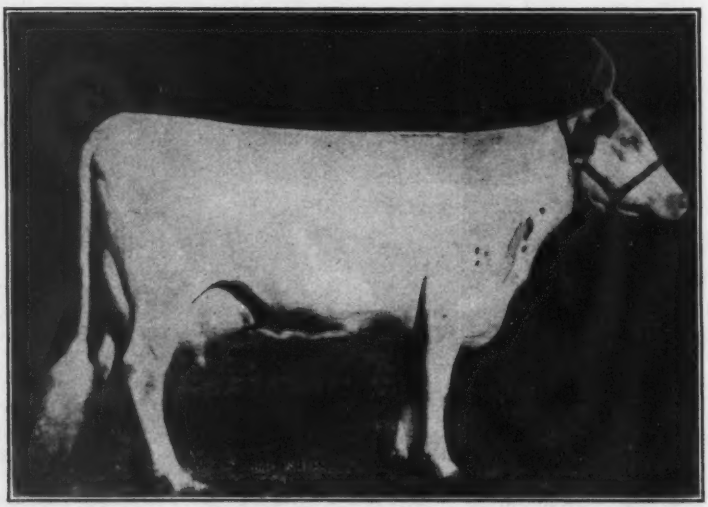

FIG. 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed

Scale of points for Ayrshire cow

Head		10
Forehead, broad and clearly defined	1	
Horns, wide set on and inclining upward	1	
Face, of medium length, slightly dished; clean cut, showing veins	2	
Muzzle, broad and strong without coarseness, nostrils large	1	
Jaws, wide at the base and strong	1	
Eyes, full and bright with placid expression	3	
Ears, of medium size and fine, carried alert	1	
Neck, fine throughout, throat clean, neatly joined to head and shoulders, of good length, moderately thin, nearly free from loose skin, elegant in bearing		3
Fore quarters		10
Shoulders, light, good distance through from point to point but sharp at withers, smoothly blending into body	2	
Chest, low, deep and full between back and forelegs	6	
Brisket, light	1	
Legs and feet, legs straight and short, well apart, shanks fine and smooth, joints firm, feet of medium size, round, solid, and deep	1	
Body		13
Back, short and straight, chine lean, sharp and open jointed	4	
Loin, broad, strong, and level	2	
Ribs, long, broad, wide apart, and well sprung	3	
Abdomen, capacious, deep, firmly held up with strong muscular development	3	
Flank, thin and arching	1	
Hind quarters		11
Rump, wide, level, long from hooks to pin bones, a reasonable pelvic arch allowed	3	
Hooks, wide apart and not projecting above back nor unduly overlaid with fat	2	
Pin bones, high, wide apart	1	
Thighs, thin, long, and wide apart	2	
Tail, fine, long, and set on level with back	1	
Legs and feet, legs strong, short, straight when viewed from behind, and set well apart; shanks fine and smooth, joints firm, feet medium size, round, solid, and deep	2	
Udder, long, wide, deep but not pendulous nor fleshy; firmly attached to the body, extending well up behind and far forward; quarters even; sole nearly level and not indented between teats, udder veins well developed and plainly visible		22
Teats, evenly placed, distance apart from side to side equal to half the breadth of udder, from back to front equal to one-third the length; length 2½ to 3½ inches, thickness in keeping with length, hanging perpendicularly and not tapering		8
Mammary veins, large, long, tortuous, branching, and entering large orifices		5
Escutcheon, distinctly defined, spreading over thighs, and extending well upward		2
Color, red of any shade, brown, or these with white; mahogany and white, or white, each color distinctly defined. (Brindle markings allowed but not desired)		2
Covering		6
Skin, medium thickness, mellow, and elastic	3	
Hair, soft and fine	2	
Secretions, oily, of rich brown or yellow color	1	
Style, active, vigorous, showing strong character, temperament inclined to nervousness but still docile		4
Weight, at maturity, not less than 1,000 pounds		4
Total		100

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average of all the dairy breeds. The 7,891 cows and heifers that completed official records up to January 1, 1928, produced an average

of 10,420 pounds of milk per cow, containing 416 pounds of butterfat, or 4 per cent butterfat.

10 highest Ayrshire yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.56	Garclaugh May Mischief 27944	25,329
Vis Bountiful Lassie 58096	923.21	Vis Bountiful Lassie 58096	24,556
Auchenbrain Brown Kate 4th 27943	917.60	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.91	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.33	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.13	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.21	Nancy Whitehall 47810	22,075
Jean Armour 3d 32219	859.65	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.77	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.41	Willowmoor May Mischief 2d A 34173	21,161

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1928, are listed below:

10 Ayrshire sires having the largest number of advanced-registry daughters

Sire	Number of daughters	Sire	Number of daughters
Kate's Champion of Penshurst 18782	61	Netherton Statesman 16431	50
Beuchan Peter Pan 12971 (imported)	58	Earl's Choice of Spring Hill 8289	44
Finlayston 8882 (imported)	56	Nox'emall 7312	35
Baron's Best of Bargenoch 12858 (imported)	52	Hill Top Major Douglas 44969	33
Penshurst Rising Star 20922	52	White Cloud of Hickory Island 10377	32

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where it has been developed during many centuries. It is probably one of the oldest breeds in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. A number of importations have been made since, but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of the foot-and-mouth disease in Europe. As shown in Tables 1 and 2, there were in 1920 in the United States about 8,000 registered animals and about 162,000 grades carrying more or less Brown Swiss blood. It is estimated that on January 1, 1928, there were about 18,000 registered Brown Swiss in the United

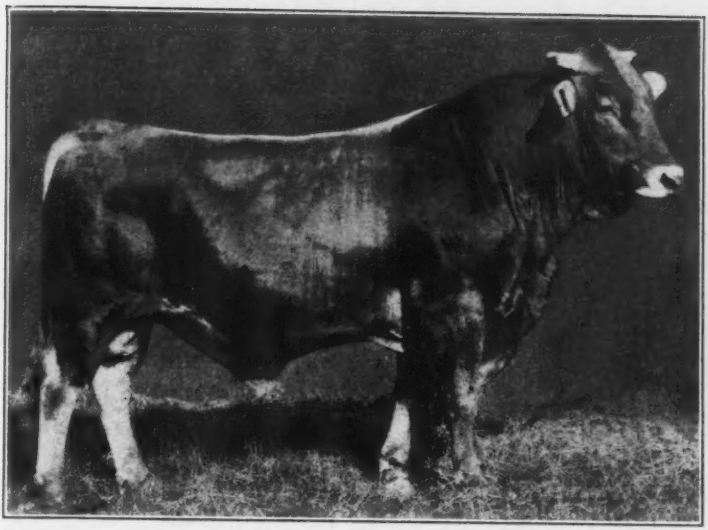

FIG. 6.—Brown Swiss bull, Reuben 2927. Twenty-four of his daughters are in the advanced registry

FIG. 7.—Brown Swiss bull, Maiden's Vronicka's College Boy 11393. Grand Champion, National Dairy Show, 1927

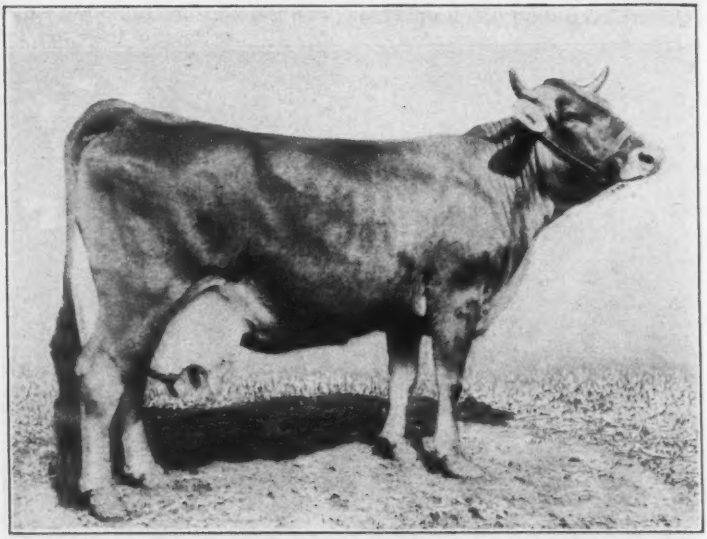

FIG. 8.—Brown Swiss cow, June's College Girl 11427. Champion butterfat producer of the breed

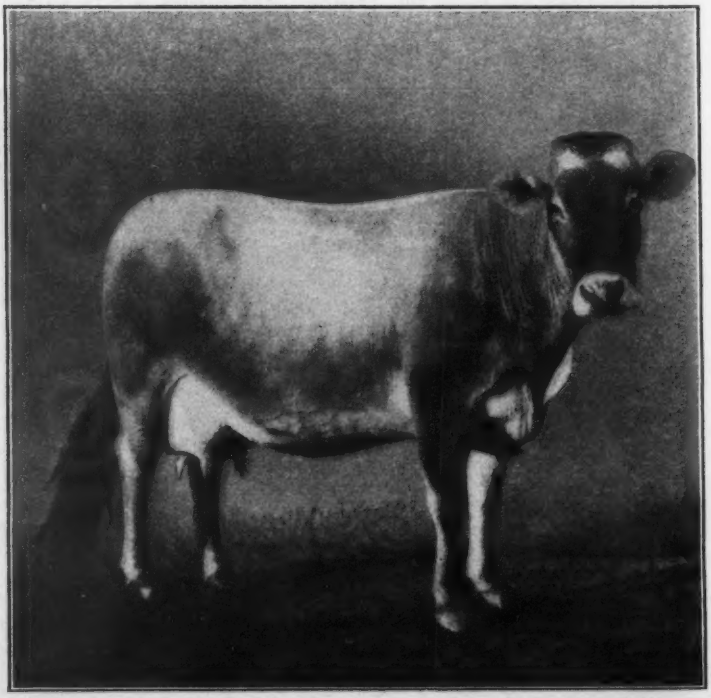

FIG. 9.—Brown Swiss cow, Believe 4245. Champion of her breed in production of milk

States.[2] Brown Swiss are scattered in 37 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio. Of late years the breed has made notable increase in popularity.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh. The calves weigh from 65 to 90 pounds at birth. The heifers are slow in maturing. When full grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually a lighter shade than the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

Scale of points for Brown Swiss cow or heifer

Head, medium size and rather long	2
Face, dished, narrow between horns and wide between eyes	2
Ears, large, fringed inside with light-colored hair, skin inside of ear a deep orange color	2
Nose, black, large, and square, with mouth surrounded by mealy colored band, tongue black	2
Eyes, moderately large, full, and bright	2
Horns, short, regularly set with black tips	2
Neck, straight, throat clean, neatly joined to head, shoulders of good length, moderately thin at the withers	4
Chest, low, deep, and full between and back of forelegs	6
Back, level to setting of tail and broad across the loin	6
Ribs, long and broad, wide apart and well sprung, with thin, arching flanks	3
Abdomen, large and deep	5
Hips, wide apart, rump long and broad	4
Thighs, wide, quarters not thin	4
Legs, short and straight, with good hoofs	2
Tail, slender, well set on, with good switch	2
Hide of medium thickness, mellow and elastic	3
Color—shades from dark to light brown, at some seasons of the year gray; white splashes near udder not objectionable, light stripe along back. White splashes on body or sides objectionable. Hair between horns usually lighter shade than body	4
Fore udder, wide, deep, well rounded but not pendulous nor fleshy, extending far forward on the abdomen	12
Rear udder, wide, deep, but not pendulous nor fleshy, extending well up behind	12
Teats, rather large, set well apart and hanging straight	8
Milk veins large, long, tortuous, elastic, and entering good wells	6
Disposition, quiet	2
Size, evidence of constitution, and stamina	5
Total	100

[2] See footnote 1, p. 6.

PRODUCTION

The Brown Swiss produces milk of average quality compared with the other breeds of dairy cattle. The 514 cows and heifers that completed yearly records and were admitted to the register of production up to January 1, 1928, have an average yearly production of 12,712 pounds of milk and 508.7 pounds of butterfat per cow, with an average butterfat test of 4 per cent. The 10 highest butterfat and milk producers among the Brown Swiss are listed below.

Ten highest Brown Swiss yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
June's College Girl 11427	1,062.30	Believe 4245	25,848
Swiss Girl F. C. 13853	1,003.76	Alice Lee 2d 8777	24,845
Believe 4245	1,002.62	June's College Girl 11427	24,572
Hawthorn Dairy Maid 6753	927.23	Swiss Girl F. C. 13853	23,236
Alice Lee 2d 8777	914.38	Clothilda Werder's Aggie 10691	22,809
Nancy V. 2d 12104	885.80	Hawthorn Dairy Maid 6753	22,765
Clothilda Werder's Aggie 10691	880.22	Sterling Pride of Lake View 9530	22,597
Goldie Merrillan 12103	873.51	Goldie Merrillan 12103	22,093
Darling D. 8845	860.52	Nancy V. 2d 12104	21,385
Swiss Valley Girl 8th 6574	850.89	Belle Windsor of Tarpleywick 9009	21,211

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to January 1, 1928, are listed below:

Ten Brown Swiss sires having the largest number of daughters in register of production

Sire	Number of daughters	Sire	Number of daughters
Reuben 2927	24	Collier 2075	9
College Master 2986	12	Coniston 7404	9
Vogel's College Boy 5638	12	Tom Phylis 1769	9
Swiss Valley Reuben 6074	11	Sunny Hill Bob 6170	8
Junker 2365	10	Casper C. 1999	7

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in Holland about two centuries ago. The breed gets its name both from the original home and from the distinctive color marking. This breed has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in America. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. It is estimated by the Dutch Belted Association of America that on January 1, 1928, there were 1,800 registered animals of this breed in the United States.

GENERAL CHARACTERISTICS

Dutch Belted cattle have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof, and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

Scale of points for Dutch Belted cow

Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel large and deep with well-developed abdomen; ribs well rounded and free from fat	10
Hips broad, and chine level, with full loin	10
Rump high, long, and broad	6
Hind quarters long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs short, clean, standing well apart	3
Udder large, well-developed front and rear; teats of convenient size and apart; mamary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

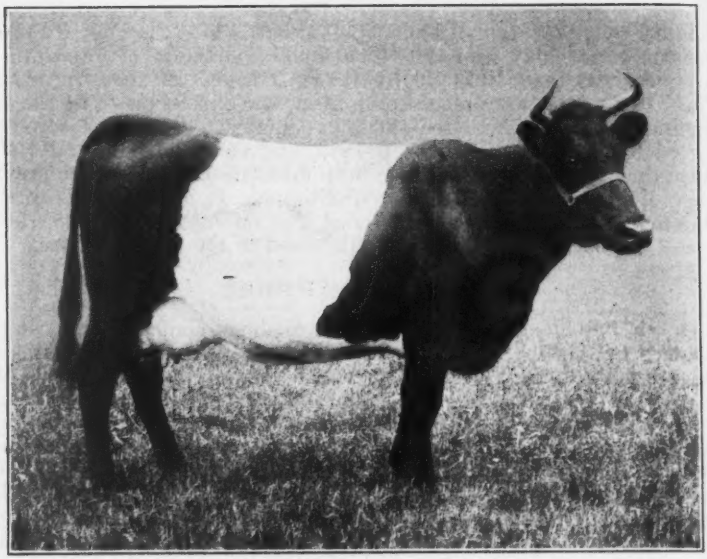

FIG. 10.—Dutch Belted cow, Angelina 2641. Leading butterfat producer of the breed

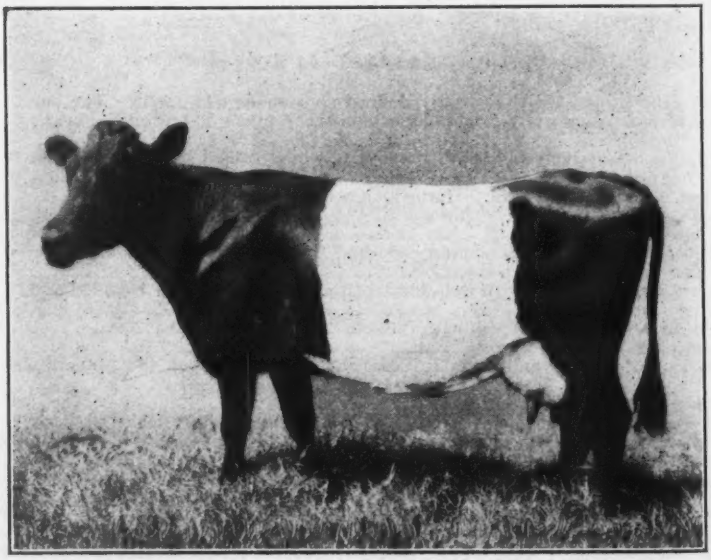

FIG. 11.—Dutch Belted cow, Gem of Columbia 2038. Leading milk producer of the breed

PRODUCTION

By referring to Table 3 it will be seen that in the percentage of butterfat contained in her milk the Dutch Belted cow falls between the Holstein and the Ayrshire or Brown Swiss. The Dutch Belted cows and heifers that finished yearly official records up to January 1, 1928, show an average production of 10,045 pounds of milk and 377.07 pounds of butterfat, with an average test of 3.75 per cent.

The 10 highest producers of butterfat and milk among Dutch Belted cows are listed below:

Ten highest Dutch Belted yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Angelina 2641	668.07	Gem of Columbia 2038	17,268
Gem of Columbia 2038	633.86	Angelina 2641	16,023
Glenbeulah's Beauty 2172	531.19	Ferndell 1961	13,478
Orange Lilly 3126	518.81	Glenbeulah's Beauty 2172	13,296
Priscilla of Lakeview 2937	517.52	Priscilla of Lakeview 2937	13,257
Ferndell 1961	501.10	Peapack Anna 1487	13,159
Peapack Anna 1487	484.31	Peapack Dutchess 1390 (imported)	13,065
Gem of Columbia 2038	479.24	Florida Lee 2654	12,094
Florida Lee 2654	456.40	Orange Lilly 3126	11,970
Peapack Dutchess 1390 (imported)	447.64	Eunice 1597	11,479

BULLS

The 10 Dutch Belted sires having up to January 1, 1928, two or more daughters with advanced-register official yearly records are Keith 934, Defendant 1185, Sutton's Gay Lad 494, Samoset 1134, Michigan Prince 1258, Glenbeulah Duke 1092, Bruce W. 729, Salvador 2d 1448, Monarch of Lakeview 1219, and Columbia King 1015.

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to America were called Alderneys. They were imported in the latter part of the

FIG. 12.—Guernsey bull, Yeoman's King of the May 17053. He has 106 daughters in the Advanced Registry

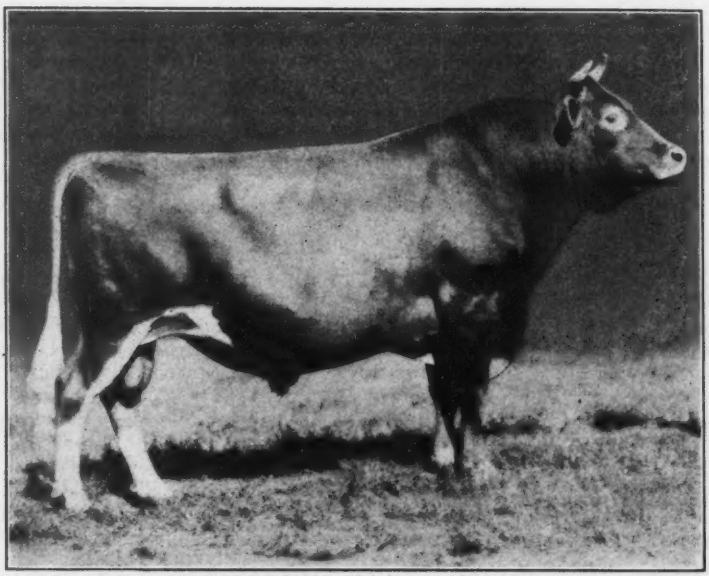

FIG. 13.—Guernsey bull, Border King of Roberts 71645. Grand Champion, National Dairy Show, 1927

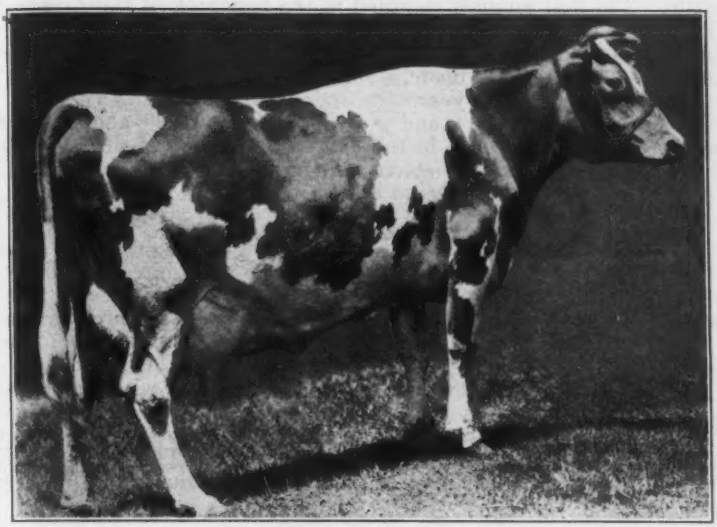

FIG. 14.—Guernsey cow, Anesthesia Faith of Hill Stead 114354. Champion butterfat producer of the breed

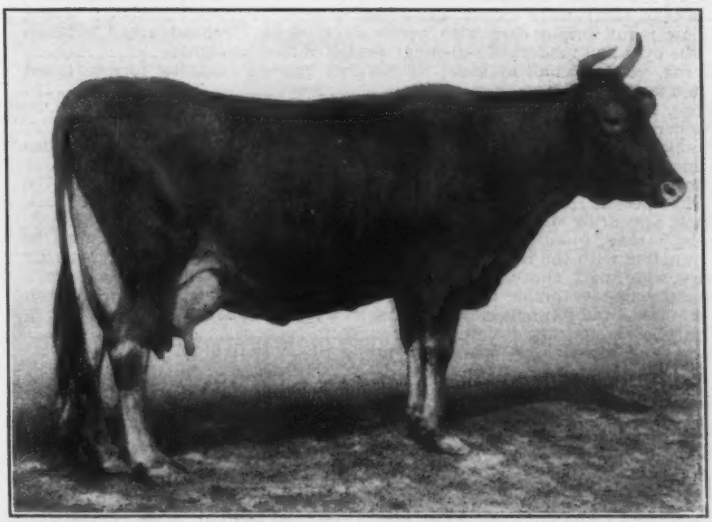

FIG. 15.—Guernsey cow, Murne Cowan 19597. Champion milk producer of the breed

eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

According to Tables 1 and 2, there were in 1920 about 80,000 registered Guernsey cattle in the United States and about 1,900,000 grades. It is estimated that on January 1, 1928, there were about 155,000 registered Guernseys in the United States.[3]

GENERAL CHARACTERISTICS

In size the Guernseys are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth, and reach maturity early. When mature the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

Scale of points for Guernsey cow

Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing femininity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel, deep and long, with well-sprung ribs. Individual ribs, long, flat, wide apart, and free from excess tissue	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern, strong and springy	2
Hide, loose and pliable, and not thick, with oily feelings; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bone and hair; nicely balanced switch	2

[3] See footnote 1, p. 6.

Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins, long, tortuous, prominent and branching with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

PRODUCTION

Guernsey milk has a high per cent of butterfat and a yellow color. The 24,948 cows and heifers that completed official records up to January 1, 1928, produced an average per cow of 9,738.5 pounds of milk and 486.1 pounds of butterfat, the average test being 4.99 per cent.

The 10 highest butterfat and milk producers among the Guernseys are listed below.

Ten highest Guernsey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Anesthesia Faith of Hill Stead 114354	1,112.50	Murne Cowan 19597	24,008
Countess Prue 43785	1,103.28	Katherine's Trixie 100396	21,071
Murne Cowan 19597	1,098.18	Gertrude Claire 99550	20,738
May Rilma 22761	1,073.41	Nella Jay 4th 38233	20,710
Gertrude Claire 99550	1,020.00	Molly's Lassie 86472	20,592
Nella Jay 4th 38233	1,019.25	St. Austell Daffodil 84890	20,491
Langwater Nancy 27943	1,011.66	Miss Daisy of Maple Hill 72610	20,315
Dairy Maid Queen of Spring Hill 74067	1,011.18	Tom's Daisy 54541	20,298
Langwater Hope 27946	1,003.17	Silverwood Diana 82940	20,006
Lillia of Iowa 2d 61500	998.40	Jean Du Luth Coronet 52816	20,004

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to January 1, 1927, are listed below.

Ten Guernsey sires having the largest number of Advanced-Register daughters

Sire	Number of daughters	Sire	Number of daughters
Governor of the Chêne (R. G. A. S. 1297 P. S.)	114	Galaxy's Sequel 16904 (Imp.)	53
Yeoman's King of the May 17053	106	Ne Plus Ultra 15265	48
Langwater Demonstrator 16451	72	Cora's Governor of Chilmark 8971 (Imp.)	47
Masher's Sequel 11462 (Imp.)	70	Beda's May King 11893	47
Clara's Sequel 29414 (Imp.)	63	Florham Laddie 20431	46

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in northern Holland, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word "Holstein" is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

According to Tables 1 and 2 there were in 1920 about 528,000 registered Holsteins in the United States and about 10,500,000 grades. It is estimated that on January 1, 1928, there were about 760,000 registered Holsteins in the United States.[4] Holstein cattle are found throughout all the 48 States though by far the largest number are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These six States contain more than 60 per cent of the registered Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

Scale of points for Holstein-Friesian cow

Forehead, broad between the eyes; dishing	2
Face, of medium length; clean cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws strong	3
Ears of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3

[4] See footnote 1, p. 6.

Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	5
Chine, straight; strong; broadly developed, with open vertebræ	4
Loin and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 28,283 official records of Holstein cows and heifers that were completed up to January 1, 1928, show an average yearly production of 15,759 pounds of milk and 533.66 pounds of butterfat, the average being 3.39 per cent.

The 10 highest butterfat and milk producers among the Holsteins are listed below:

Ten highest Holstein yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
De Kol Plus Segis Dixie 295135 [1]	1,349.31	Segis Pietertje Prospect 221846	37,381
Daisy Aaggie Ormsby 3d 571569	1,286.23	Helm Veeman Woodcrest 486877	36,218
May Walker Ollie Homestead 300043	1,218.59	Kolrain Marion Finderne 317396	35,340
Hollywood Lilith Palmyra Abbekerk 400491	1,206.79	Kolrain Finderne Bess 291570	35,085
Duchess Skylark Ormsby 124514	1,205.09	Kathleen Triumph 1032712	34,972
Bess Johanna Ormsby 263431	1,198.09	Nooksack Lunde Oregon De Kol 301119	34,511
Redfield Segis Johanna 735950	1,182.93	Queen Carlotta De Kol 311674	34,430
Finderne Pride Johanna Rue 121083	1,176.47	Adirondac Wietske Dairy Maid 204072	34,402
Queen Bessie Pietertje Ormsby 648084	1,172.75	Grahamholm Colantha Pauline Segis 405465	34,292
Segis Pietertje Prospect 221846	1,158.95	Princess Aaggie Polkadot De Kol 372024	34,071

[1] Canadian cow.

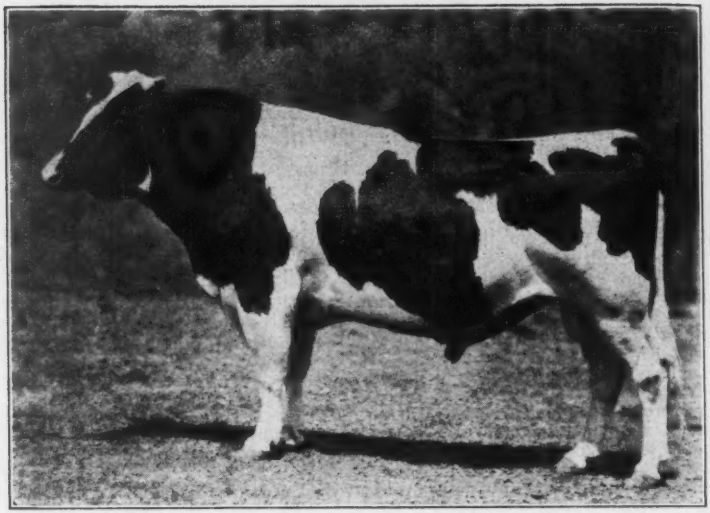

FIG. 16.—Holstein bull, King of the Ormsbys 178078. He has 80 yearly-record daughters in the advanced register

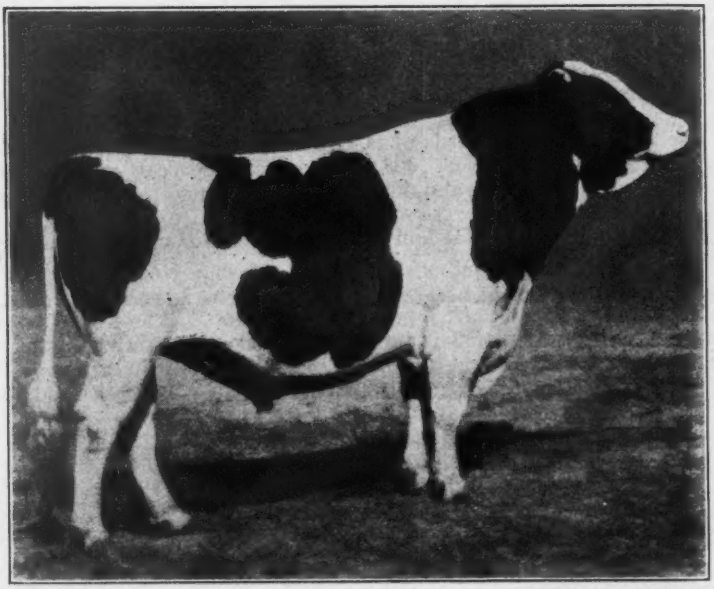

FIG. 17.—Holstein bull, Sir Fobes Ormsby Hengerveld 412147. Grand champion, National Dairy Show, 1927

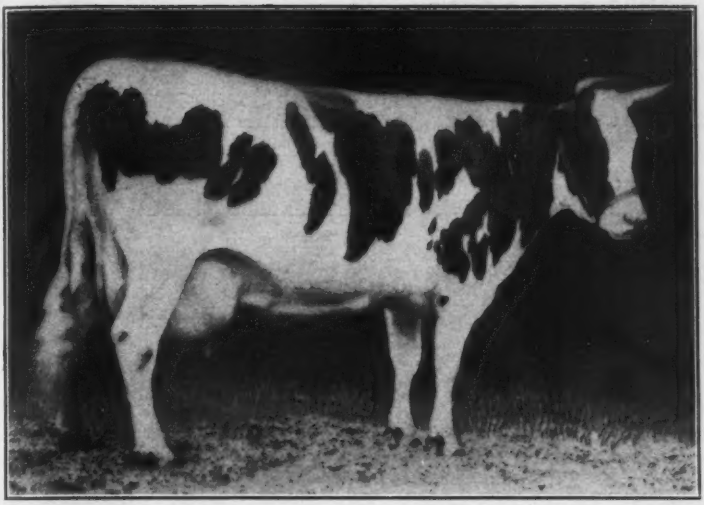

FIG. 18.—Holstein cow, Segis Pietertje Prospect 221846. Has highest yearly milk record of all the breeds

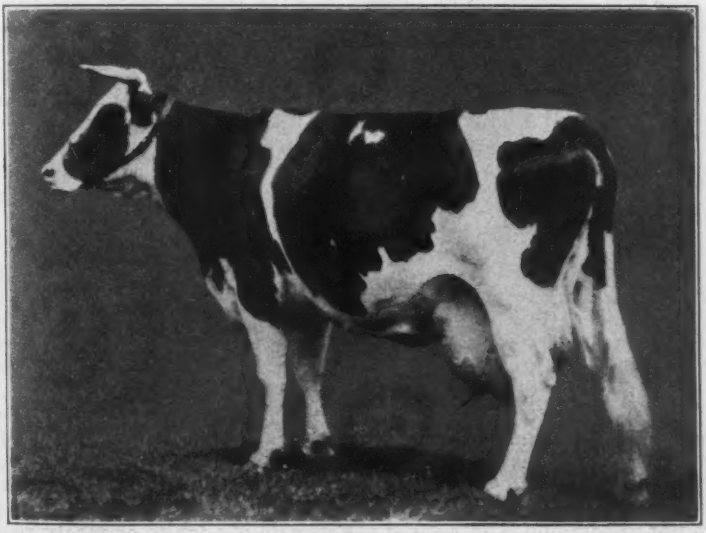

FIG. 19.—Daisy Anggie Ormsby 3d 571569. Has highest yearly butterfat record of all the breeds in the United States

BULLS

The 10 Holstein-Friesian sires having the largest number of daughters with yearly records, up to January 1, 1927, are listed below:

Ten Holstein sires with the largest number of yearly-record daughters

Sire	Number of daughters	Sire	Number of daughters
King of the Ormsbys 178078	80	Colantha Sir Walker Korndyke 95460	67
Matador Segis Walker 148839	75	King Pontiac Champion 53418	65
Sir Inka Prilly Segis 80914	74	Sir Pietertje Ormsby Mercedes 44931	65
Judge Segis 80912	74	Woodcrest Tehee 74219	64
Sir Johanna Fayne 42147	68	Dutchland Colantha Sir Inka 50999	62

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. There were about 232,000 registered and about 9,300,000 grade Jerseys in this country in 1920, well scattered throughout all the 48 States. It is estimated that on January 1, 1928, there were about 315,000 registered Jerseys in the United States.[5]

GENERAL CHARACTERISTICS

The Jersey is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

[5] See footnote 1, p. 6.

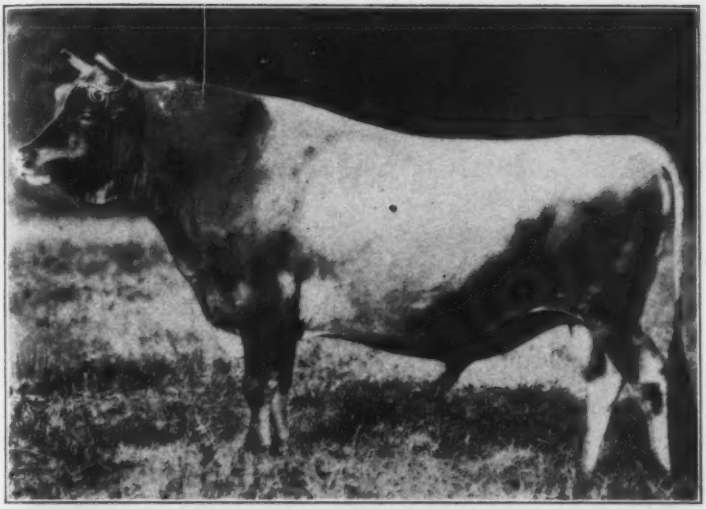

FIG. 20.—Jersey bull, Dairylike Majesty 198188. He has 125 daughters in the register of merit

FIG. 21.—Jersey bull, Fern's Rochette Noble 193011. Grand champion, National Dairy Show, 1927

FIG. 22.—Jersey cow Madeline of Hillside 389336. Champion milk producer of the breed

FIG. 23.—Jersey cow, Darling's Jolly Lassie 435948. Champion butterfat producer of the breed

Scale of points for Jersey cow

DAIRY TEMPERAMENT AND CONSTITUTION

Head, 7:	
A. Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
B. Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong	4
Neck, 4:	
Thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body, 37:	
A. Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
B. Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development	10
C. Back straight and strong, with prominent spinal processes; loins broad and strong	5
D. Rump long to tail setting, and level from hip bones to rump bones	6
E. Hip bones high and wide apart	3
F. Thighs flat and wide apart, giving ample room for udder	3
G. Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking	2
H. Hide loose and mellow	2
I. Tail thin, long, with good switch, not coarse at setting on	1

MAMMARY DEVELOPMENT

Udder, 26:	
A. Large size, flexible, and not fleshy	6
B. Broad, level or spherical, not deeply cut between teats	4
C. Fore udder full and well rounded, running well forward of front teats	10
D. Rear udder well rounded, and well out and up behind	6
Teats, 8:	
Of good and uniform length and size, regularly and squarely placed	8
Milk veins, 4:	
Large, long, tortuous and elastic, entering large and numerous orifices	4
Size, 4:	
Mature cows, 800 to 1,000 pounds	4
General appearance, 10:	
A symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal, with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and rich in butterfat. The 27,230 cows and heifers that had register-of-merit records up to January 1, 1928, averaged 8,439 pounds of milk and 451.74 pounds of butterfat a year, with an average test of 5.35 per cent.

The 10 highest butterfat and milk producers among the Jerseys are listed below:

Ten highest Jersey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Darling's Jolly Lassie 435948	1,141.28	Madeline of Hillside 389336	20,624
Groff's Constance 367292	1,130.09	Fauvic's Star 313018	20,616
Prince's Emma of H. S. F. 359390	1,109.99	Abigail of Hillside 457241	20,359
Lad's Iota 350672	1,048.07	Fauvic Ruth 385463	19,805
Fauvic Ruth 385463	1,047.28	Passport 219742	19,695
Madeline of Hillside 389336	1,044.05	Red Lady 396118	19,608
Plain Mary 268206	1,040.08	Sybil's Miss May 477787	19,239
Vive La France 319616	1,039.29	Lad's Likeness 338246	19,223
Lady's Silken Glow 313311	1,038.70	Eminent's Jimp's Owl 297471	19,099
St. Mawes Lad's Lady 451568	1,032.97	Raleigh's Torono's Meme 544207	19,076

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to January 1, 1928, are listed below:

Ten Jersey sires with largest number of daughters in register of merit

Sire	Number of daughters	Sire	Number of daughters
Dairylike Majesty 198188	124	Sophie 19th's Tormentor 113302	78
Pogis 99th of Hood Farm 94502	119	Hood Farm Torono 60326	74
Imported Oxford You'll Do 111860	83	Imported Golden Fern's Noble 145762	66
Royal Majesty of St. Cloud 89541	83	Irene's King Pogis 73182	62
Hood Farm Pogis 9th 55552	79	Sayda's Heir 3d 74817	62

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations and their addresses are as follows:

American Guernsey Cattle Club, Peterboro, N. H.
American Jersey Cattle Club, 324 West Twenty-third Street, New York City.
Ayrshire Breeders' Association of the United States of America, Brandon, Vt.
Brown Swiss Cattle Breeders' Association, Beloit, Wis.
Dutch Belted Cattle Association of America, Rockville, Conn.
Holstein-Friesian Association of America, Brattleboro, Vt.

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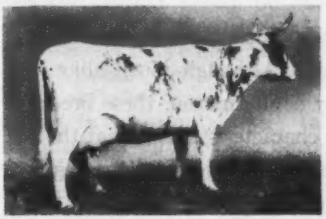
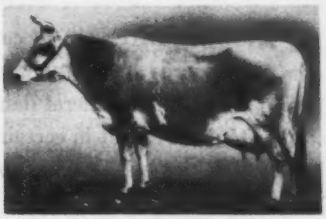
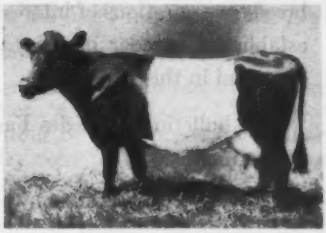
U. S. DEPARTMENT OF AGRICULTURE

FARMERS' BULLETIN No. 1443 Rev. Jan. 1930

DAIRY CATTLE BREEDS

Rev.ed. follows



XUM

SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

Washington, D. C. Issued February, 1925; revised January, 1930

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *Senior Dairy Husbandman, Bureau of Dairy Industry*

CONTENTS

	Page		Page
Dairy cattle in the United States	1	Brown Swiss	10
What is a dairy breed?	3	Dutch Belted	14
Registration	3	Guernsey	17
Which breed to select	4	Holstein-Friesian	22
The score card	6	Jersey	26
Ayrshire	6	Breed associations	30

DAIRY CATTLE IN THE UNITED STATES

ACCORDING to estimates made by the United States Department of Agriculture there were about 33,000,000 dairy cattle of all ages in the United States on January 1, 1929. Three per cent of these cattle, or about 1,000,000, are purebred, and represent six breeds, namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. The improvement that must be made in the 97 per cent that are not purebred must come largely from the 3 per cent that are purebred. Likewise, any increase in the number of our purebred dairy cows, and even the maintenance of our grade dairy herds at their present number and efficiency, will be accomplished principally through the use of purebred bulls. For these reasons purebred dairy cattle have played in the past and will play in the future a very important rôle in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various breeds in the United States, by sections and by States. The information in Table 1, showing total number of each breed on January 1, 1920, was brought out by an inquiry sent to 14,000 special livestock reporters of the branch then known as the Bureau of Markets and Crop Estimates of the United States Department of Agriculture. Grades and scrubs were listed with the respective breeds to which they seemed to belong.

Table 2 shows the number of registered purebreds of the dairy breeds on January 1, 1920, as ascertained by the census.

Table 3 gives the average annual production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 1.—*Estimated number and percentage of cattle of dairy breeds, including purebreds and grades, in the United States, January 1, 1920, by sections*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Ayrshire	412,000	1.8	5.8	0.8	1.9	0.7	.....	0.8
Brown Swiss	170,000	.7	.5	1.3	1.3	.3	.....	.4
Dutch Belted	157,000	.7	.5	.2	.6	.3	2.3	.....
Guernsey	1,995,000	8.5	10.6	12.1	11.9	8.4	1.3	5.1
Holstein-Friesian	11,069,000	47.4	65.3	56.2	54.3	21.1	17.3	58.9
Jersey	9,554,000	40.9	17.3	29.4	30.0	69.2	79.1	34.8
Total	23,355,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1920, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	916,602	30,509	8,283	79,446	528,621	231,834	37,909
Geographic divisions:							
New England	85,724	9,780	349	10,311	42,721	20,305	2,258
Middle Atlantic	239,764	12,883	1,904	21,114	171,124	25,815	6,924
East North Central	289,859	3,735	4,199	29,640	185,475	57,167	9,643
West North Central	106,967	1,859	1,386	8,250	62,055	23,697	9,720
South Atlantic	49,119	519	43	5,949	15,445	25,245	1,918
East South Central	34,651	27	2	298	5,902	27,024	1,397
West South Central	43,268	60	13	263	9,724	30,650	2,558
Mountain	22,534	324	146	838	12,689	6,926	1,611
Pacific	44,716	1,322	240	2,783	23,486	15,005	1,880
New England:							
Maine	15,683	1,134	62	1,836	7,206	4,999	446
New Hampshire	10,750	1,214	75	1,151	6,695	1,348	267
Vermont	28,549	3,808	59	2,193	13,413	8,446	630
Massachusetts	18,807	1,880	80	3,348	10,006	2,904	589
Rhode Island	1,651	494		217	542	351	47
Connecticut	10,284	1,250	73	1,566	4,859	2,257	279
Middle Atlantic:							
New York	153,037	9,521	1,347	9,749	114,662	13,411	4,347
New Jersey	11,538	265	23	1,747	7,810	1,368	325
Pennsylvania	75,189	3,097	534	9,618	48,652	11,036	2,252
East North Central:							
Ohio	70,882	1,021	324	4,960	38,327	23,842	2,408
Indiana	21,115	509	131	1,215	8,477	9,921	862
Illinois	36,412	202	1,385	1,369	25,124	7,317	1,015
Michigan	46,533	291	429	3,369	32,702	8,296	1,446
Wisconsin	114,917	1,712	1,930	18,727	80,845	7,791	3,912
West North Central:							
Minnesota	32,668	399	483	4,468	22,830	2,508	1,980
Iowa	20,286	271	447	1,716	10,916	3,629	3,307
Missouri	19,037	110	135	760	5,569	10,708	1,755
North Dakota	4,797	226	25	346	2,937	481	784
South Dakota	5,248	85	119	135	4,027	312	570
Nebraska	7,873	74	38	348	5,368	1,275	770
Kansas	17,058	694	141	477	10,408	4,784	554
South Atlantic:							
Delaware	1,691	1		246	1,245	172	27
Maryland	8,668	113	9	1,867	4,073	2,323	283
District of Columbia	186			1	175	10	
Virginia	9,586	25		1,696	4,160	3,223	482
West Virginia	4,450	272	32	333	1,134	2,546	133
North Carolina	7,697	44	1	789	1,613	4,978	272
South Carolina	5,184	4		644	1,008	3,389	139
Georgia	8,727	14	1	305	1,700	6,224	483
Florida	2,930	46		68	337	2,380	99
East South Central:							
Kentucky	8,829	20		40	2,046	6,421	302
Tennessee	11,347	2	1	111	1,383	9,424	426
Alabama	6,108	4	2	46	1,142	4,608	306
Mississippi	8,367	1		101	1,331	6,571	363
West South Central:							
Arkansas	6,950	3	1	19	2,001	4,627	299
Louisiana	3,415	1	2	94	1,009	2,201	108
Oklahoma	9,539	37	3	91	3,741	5,104	563
Texas	23,364	19	7	59	2,973	18,718	1,588
Mountain:							
Montana	3,451	13	54	176	2,453	560	195
Idaho	4,138	46	48	197	2,049	1,579	219
Wyoming	1,071	21	14	31	747	167	91
Colorado	6,448	114	30	241	4,057	1,605	401
New Mexico	1,327			42	438	507	340
Arizona	2,772	109		48	1,778	669	168
Utah	2,922			93	970	1,706	153
Nevada	405	21		10	197	133	44
Pacific:							
Washington	12,720	404	69	941	7,673	3,402	231
Oregon	12,852	323	135	697	3,624	7,771	302
California	19,144	595	36	1,145	12,189	3,832	1,347

[1] Including animals reported as purebred, but with breed not specified.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that have official yearly records*

Breed	Cows and heifers	To what date	Milk	Butterfat	
				Quantity	Test
	Number		*Pounds*	*Pounds*	*Per cent*
Ayrshire	8,004	Jan. 1, 1929	10,393	415.0	3.99
Brown Swiss	530	do	12,813	512.7	4.00
Dutch Belted	62	do	10,035	384.3	3.83
Guernsey	27,210	do	9,775	488.1	4.99
Holstein-Friesian	31,392	do	16,070	544.5	3.38
Jersey	37,875	do	8,466	453.1	5.35

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of purebred dairy cattle to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a purebred dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A purebred dairy animal is one that meets the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, and through progressive improvement such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either purebreds or grades; but to prevent misunderstanding it is desirable to precede the breed name with the word "purebred" or "grade."

In addition to the breeds of dairy cattle mentioned, certain other breeds having good milking qualities are kept for dairy purposes. Such cattle, which are often referred to as dual-purpose animals because of their ability to produce satisfactory carcasses as well as a good milk flow, include the Shorthorn, Red Polled, and Devon. The qualities of these are discussed in Farmers' Bulletin 612, "Breeds of Beef Cattle."

REGISTRATION

A purebred dairy animal is one whose sire and dam are eligible to be recorded by name and number in a register of the breed, commonly called the herdbook. An animal thus qualified may itself be recorded in the same herd register, provided the sire and dam are registered, and provided it also qualifies with regard to color. Additional rules and requirements for registration are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the associations concerned, as listed on page 30 of this bulletin.

In addition to the herd register, there is for each breed another register in which are entered the names of purebred cows that have

completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The requirements for admission to this special register of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question which breed to choose, and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are: (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with purebreds may feel that since all his neighbors have one breed of cattle, he should get another breed so as to have a monopoly in the business of selling breeding stock. There is no question about the monopoly, but there would probably be no business to monopolize. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed buyers are attracted to the locality because of the better chance to get the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good purebred bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with purebreds. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

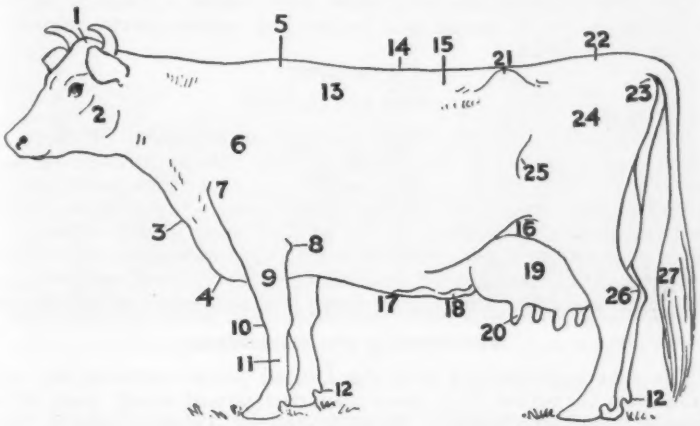
In a district where no breed is established, or in sections where all the different breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder can not shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIG. 1.—Diagram of cow showing names and location of parts

price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds, and other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful a diagram is given in Figure 1, which names and locates the various parts referred to on the score cards.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. As indicated by Tables 1 and 2, there were in 1920 about 30,000 registered Ayrshires in the United States and less than 400,000 grades carrying more or less Ayrshire blood. It is estimated that on January 1, 1929, there were about 42,000 registered Ayrshires in the United States.[1] Ayrshires are scattered through practically all the States, though by far the largest numbers are in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even, the teats medium in size and well placed.

[1] This figure was obtained by assuming that the relation between the number of animals registered 1914–1920 and the number of living animals in 1920 is the same as the relation between the number of animals registered 1922–1928 and the number of living animals in 1928.

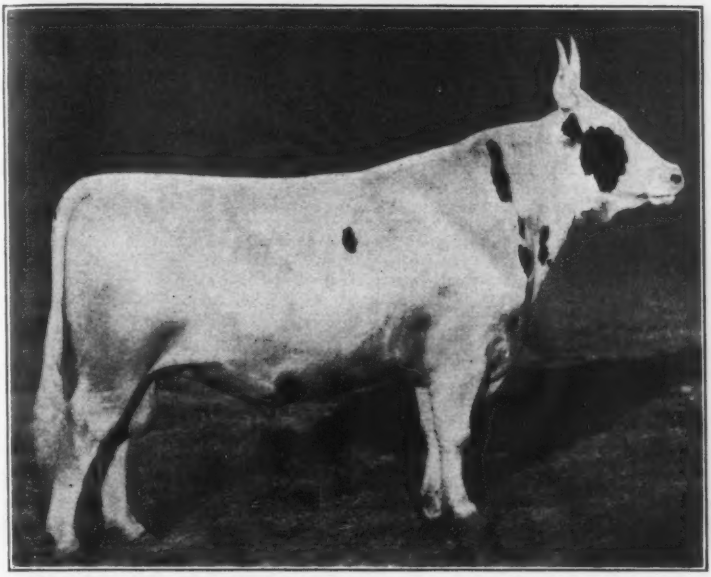


FIG. 2.—Ayrshire bull, Imp. Hobsland White King 23396. Grand champion, National Dairy Show, 1927

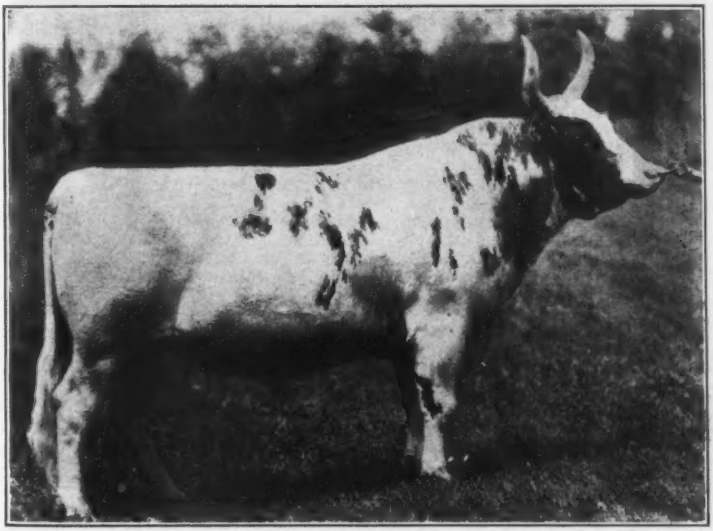


FIG. 3.—Ayrshire bull, Penhurst Rising Star 20922. Sixty-four of his daughters are in the Advanced Registry

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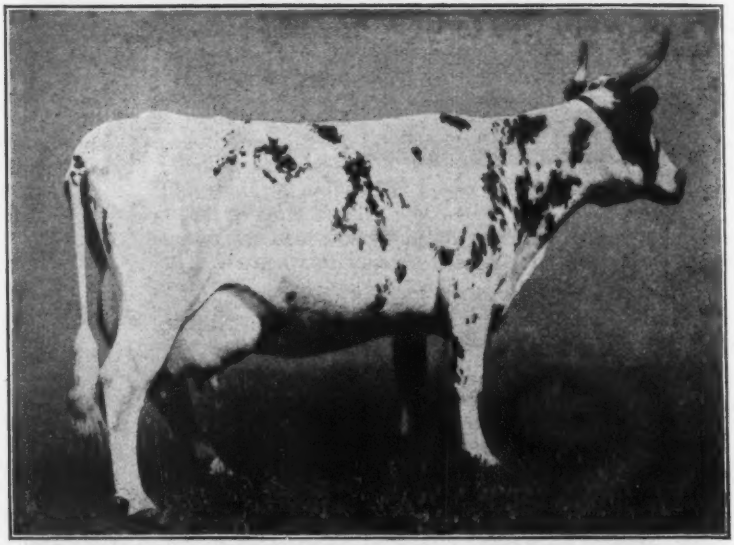

FIG. 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed

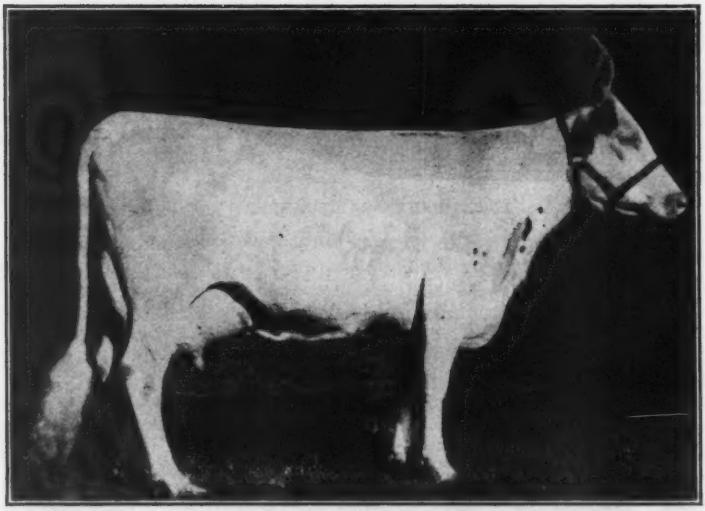

FIG. 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed

Scale of points for Ayrshire cow

Head		10
Forehead, broad and clearly defined	1	
Horns, wide set on and inclining upward	1	
Face, of medium length, slightly dished; clean cut, showing veins	2	
Muzzle, broad and strong without coarseness, nostrils large	1	
Jaws, wide at the base and strong	1	
Eyes, full and bright with placid expression	3	
Ears, of medium size and fine, carried alert	1	
Neck, fine throughout, throat clean, neatly joined to head and shoulders, of good length, moderately thin, nearly free from loose skin, elegant in bearing		3
Fore quarters		10
Shoulders, light, good distance through from point to point but sharp at withers, smoothly blending into body	2	
Chest, low, deep and full between back and forelegs	6	
Brisket, light	1	
Legs and feet, legs straight and short, well apart, shanks fine and smooth, joints firm, feet of medium size, round, solid, and deep	1	
Body		13
Back, short and straight, chine lean, sharp and open jointed	4	
Loin, broad, strong, and level	2	
Ribs, long, broad, wide apart, and well sprung	3	
Abdomen, capacious, deep, firmly held up with strong muscular development	3	
Flank, thin and arching	1	
Hind quarters		11
Rump, wide, level, long from hooks to pin bones, a reasonable pelvic arch allowed	3	
Hooks, wide apart and not projecting above back nor unduly overlaid with fat	2	
Pin bones, high, wide apart	1	
Thighs, thin, long, and wide apart	2	
Tail, fine, long, and set on level with back	1	
Legs and feet, legs strong, short, straight when viewed from behind, and set well apart; shanks fine and smooth, joints firm, feet medium size, round, solid, and deep	2	
Udder, long, wide, deep but not pendulous nor fleshy; firmly attached to the body, extending well up behind and far forward; quarters even; sole nearly level and not indented between teats, udder veins well developed and plainly visible		22
Teats, evenly placed, distance apart from side to side equal to half the breadth of udder, from back to front equal to one-third the length; length 2½ to 3½ inches, thickness in keeping with length, hanging perpendicularly and not tapering		8
Mammary veins, large, long, tortuous, branching, and entering large orifices		5
Escutcheon, distinctly defined, spreading over thighs, and extending well upward		2
Color, red of any shade, brown, or these with white; mahogany and white, or white, each color distinctly defined. (Brindle markings allowed but not desired)		2
Covering		6
Skin, medium thickness, mellow, and elastic	3	
Hair, soft and fine	2	
Secretions, oily, of rich brown or yellow color	1	
Style, active, vigorous, showing strong character, temperament inclined to nervousness but still docile		4
Weight, at maturity, not less than 1,000 pounds		4
Total		100

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average of all the dairy breeds. The 8,004 cows and heifers that completed official records up to January 1, 1929, produced an average

of 10,393 pounds of milk per cow, containing 415 pounds of butterfat, or 3.99 per cent butterfat.

Ten highest Ayrshire yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.56	Garclaugh May Mischief 27944	25,329
Vi's Bountiful Lassie 58096	923.21	Vi's Bountiful Lassie 58096	24,556
Auchenbrain Brown Kate 4th 27943	917.60	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.91	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.33	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.13	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.21	Nancy Whitehall 47810	22,074
Jean Armour 3d 32219	859.65	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.77	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.41	Willowmoor May Mischief 2d A 34173	21,161

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1929, are listed below:

Ten Ayrshire sires having the largest number of Advanced-Registry daughters

Sire	Number of daughters	Sire	Number of daughters
Penhurst Rising Star 20922	64	Netherton Statesman 16431	53
Kate's Champion of Penhurst 18782	61	Earl's Choice of Spring Hill 8289	44
Beuchan Peter Pan 12971 (imported)	58	Penhurst Man O'War 25200	44
Finlayston 8882 (imported)	56	Nox'emall 7312	35
Baron's Best of Bargenoch 12858 (imported)	53	Hill Top Major Douglas 14969	35

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where it has been developed during many centuries. It is probably one of the oldest breeds in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. A number of importations have been made since, but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of the foot-and-mouth disease in Europe. As shown in Tables 1 and 2, there were in 1920 in the United States about 8,000 registered animals and about 162,000 grades carrying more or less Brown Swiss blood. It is estimated that on January 1, 1929, there were about 28,000 registered Brown Swiss in the United

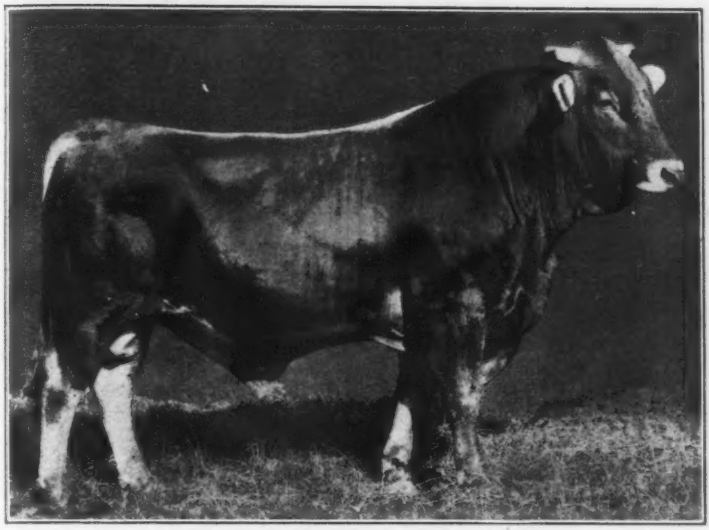

FIG. 6.—Brown Swiss bull, Reuben 2927. Twenty-four of his daughters are in the Advanced Registry

FIG. 7.—Brown Swiss bull, Maiden's Vronicka's College Boy 11393. Grand Champion, National Dairy Show, 1927

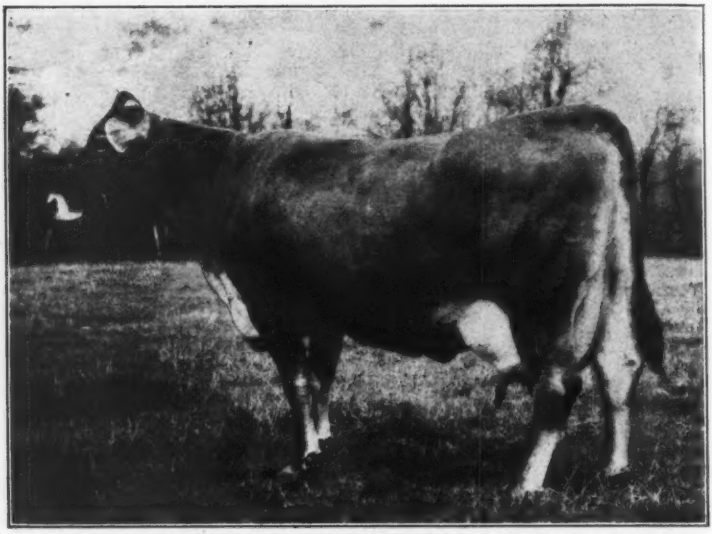

FIG. 8.—Brown Swiss cow, Swiss Valley Girl 10th 7887. Champion milk and butterfat producer of the breed

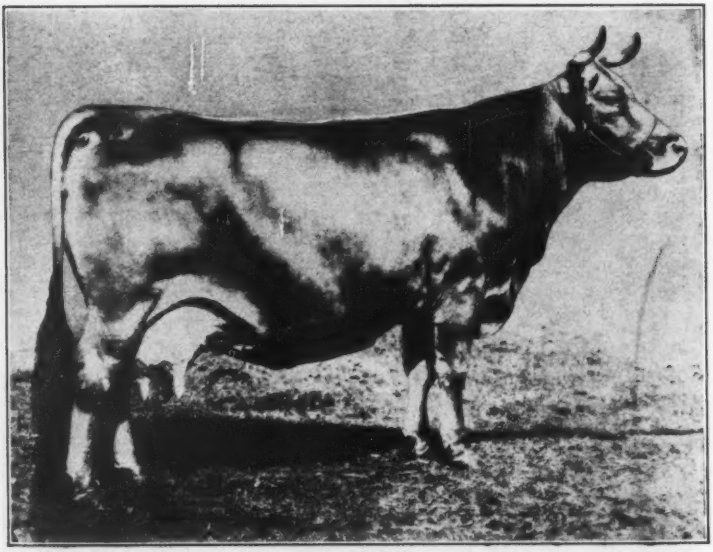

FIG. 9.—Brown Swiss cow, Silver Belle 9322. Grand champion, National Dairy Show, 1928

States.[2] Brown Swiss are scattered in 37 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio. Of late years the breed has made notable increase in popularity.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh. The calves weigh from 65 to 90 pounds at birth. The heifers are slow in maturing. When full grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually a lighter shade than the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

Scale of points for Brown Swiss cow or heifer

Head, medium size and rather long	2
Face, dished, narrow between horns and wide between eyes	2
Ears, large, fringed inside with light-colored hair, skin inside of ear a deep orange color	2
Nose, black, large, and square, with mouth surrounded by mealy colored band, tongue black	2
Eyes, moderately large, full, and bright	2
Horns, short, regularly set with black tips	2
Neck, straight, throat clean, neatly joined to head, shoulders of good length, moderately thin at the withers	4
Chest, low, deep, and full between and back of forelegs	6
Back, level to setting of tail and broad across the loin	6
Ribs, long and broad, wide apart and well sprung, with thin, arching flanks	3
Abdomen, large and deep	5
Hips, wide apart, rump long and broad	4
Thighs, wide, quarters not thin	4
Legs, short and straight, with good hoofs	2
Tail, slender, well set on, with good switch	2
Hide of medium thickness, mellow and elastic	3
Color—shades from dark to light brown, at some seasons of the year gray; white splashes near udder not objectionable, light stripe along back. White splashes on body or sides objectionable. Hair between horns usually lighter shade than body	4
Fore udder, wide, deep, well rounded but not pendulous nor fleshy, extending far forward on the abdomen	12
Rear udder, wide, deep, but not pendulous nor fleshy, extending well up behind	12
Teats, rather large, set well apart and hanging straight	8
Milk veins large, long, tortuous, elastic, and entering good wells	6
Disposition, quiet	2
Size, evidence of constitution, and stamina	5
Total	100

[2] See footnote 1, p. 6.

PRODUCTION

The Brown Swiss produces milk of average quality compared with the other breeds of dairy cattle. The 530 cows and heifers that completed yearly records and were admitted to the Register of Production up to January 1, 1929, have an average yearly production of 12,813 pounds of milk and 512.7 pounds of butterfat per cow, with an average butterfat test of 4 per cent. The 10 highest butterfat and milk producers among the Brown Swiss are listed below.

Ten highest Brown Swiss yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Swiss Valley Girl 10th 7887	1,106.33	Swiss Valley Girl 10th 7887	27,514
June's College Girl 11427	1,062.30	Believe 4245	25,848
Swiss Girl F. C. 13853	1,003.76	Alice Lee 2d 8777	24,845
Believe 4245	1,002.62	June's College Girl 11427	24,572
Hawthorn Dairy Maid 6753	927.23	Swiss Girl F. C. 13853	23,236
Alice Lee 2d 8777	914.38	Olympe of Walhalla 10309	23,023
Nancy V. 2d 12104	885.80	Clothilda Werder's Aggie 10691	22,809
Clothilda Werder's Aggie 10691	880.22	Hawthorn Dairy Maid 6753	22,765
Goldie Merrillan 12103	873.51	Sterling Pride of Lake View 9530	22,597
Darling D. 8845	860.52	Lucile of Lake View 10739	22,096

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to January 1, 1929, are listed below.

Ten Brown Swiss sires having the largest number of daughters in Register of Production

Sire	Number of daughters	Sire	Number of daughters
Reuben 2927	24	Junker 2365	10
College Master 2986	12	Coniston 7404	10
Vogel's College Boy 5638	12	Collier 2075	9
Swiss Valley Reuben 6074	11	Tom Phylis 1769	9
Sunny Hill Bob 6170	11	Ilda's College Boy 6663	8

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in Holland about two centuries ago. The breed gets its name both from the original home and from the distinctive color marking. This breed has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in America. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. It is estimated by the Dutch Belted Association of America that on January 1, 1929, there were 1,800 registered animals of this breed in the United States.

GENERAL CHARACTERISTICS

Dutch Belted cattle have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof, and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

Scale of points for Dutch Belted cow

Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel large and deep with well-developed abdomen; ribs well rounded and free from fat	10
Hips broad, and chine level, with full loin	10
Rump high, long, and broad	6
Hind quarters long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs short, clean, standing well apart	3
Udder large, well-developed front and rear; teats of convenient size and apart; mamary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

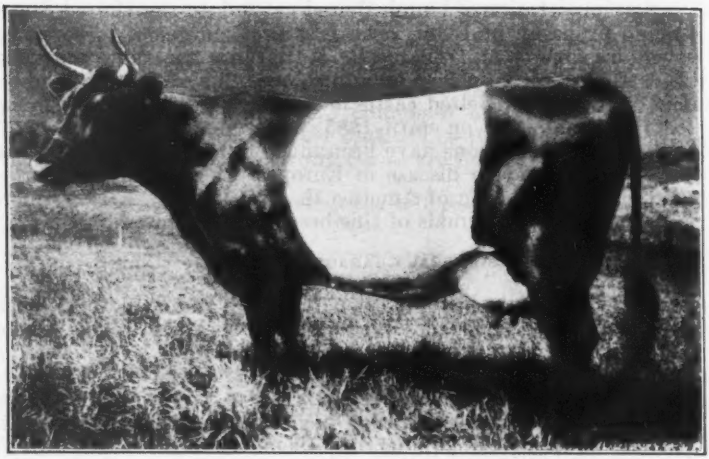

FIG. 10.—Dutch Belted cow, Gloria 3231. Leading butterfat producer of the breed

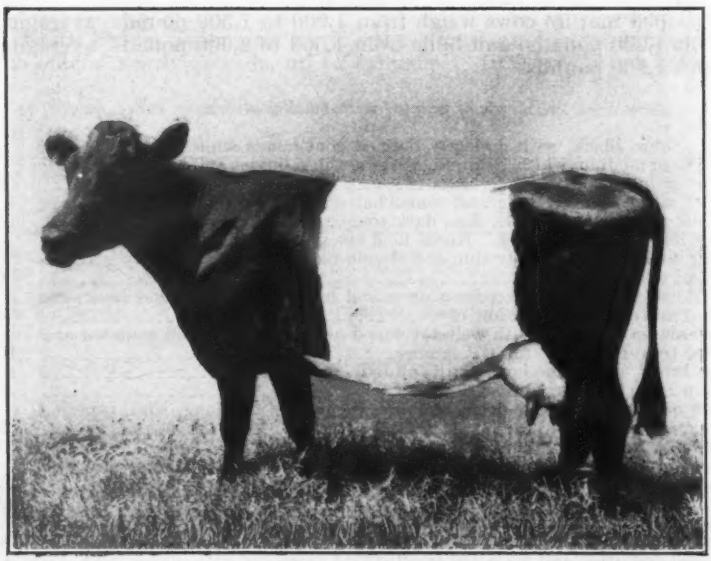

FIG. 11.—Dutch Belted cow, Gem of Columbia 2038. Leading milk producer of the breed

PRODUCTION

By referring to Table 3 it will be seen that in the percentage of butterfat contained in her milk the Dutch Belted cow falls between the Holstein and the Ayrshire. The Dutch Belted cows and heifers that finished yearly official records up to January 1, 1929, show an average production of 10,035 pounds of milk and 384.3 pounds of butterfat, with an average test of 3.83 per cent.

The 10 highest producers of butterfat and milk among Dutch Belted cows are listed below.

Ten highest Dutch Belted yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Gloria 3231	780.08	Gem of Columbia 2038	17,268
Angelina 2641	668.07	Gloria 3231	16,546
Gem of Columbia 2039	633.86	Angelina 2641	16,023
Glenbeulah's Beauty 2172	531.19	Ferndell 1961	13,478
Orange Lilly 3126	518.81	Glenbeulah's Beauty 2172	13,296
Priscilla of Lakeview 2937	517.52	Priscilla of Lakeview 2937	13,257
Lenetta 2834	506.20	Peapack Anna 1487	13,159
Ferndell 1964	501.10	Peapack Dutchess 1390 (imported)	13,065
Nancy Lee's Flower 3201	493.80	Florida Lee 2654	12,094
Peapack Anna 1487	487.31	Orange Lilly 3126	11,970

BULLS

The 10 Dutch Belted sires having up to January 1, 1929, three or more daughters with Advanced-Register official yearly records are Keith 934, Samoset 1134, Michigan's Prince 1258, Defendant 1185, Sutton's Gay Lad 494, Salvador 2d 1448, Glenbeulah's Duke 1092, Bruce W. 729, Monarch of Lakeview 1219, Wonder of Lakeview 1483.

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to America were called Alderneys. They were imported in the latter part of the

FIG. 12.—Guernsey bull, Yeoman's King of the May 17053. He has 109 daughters in the Advanced Registry

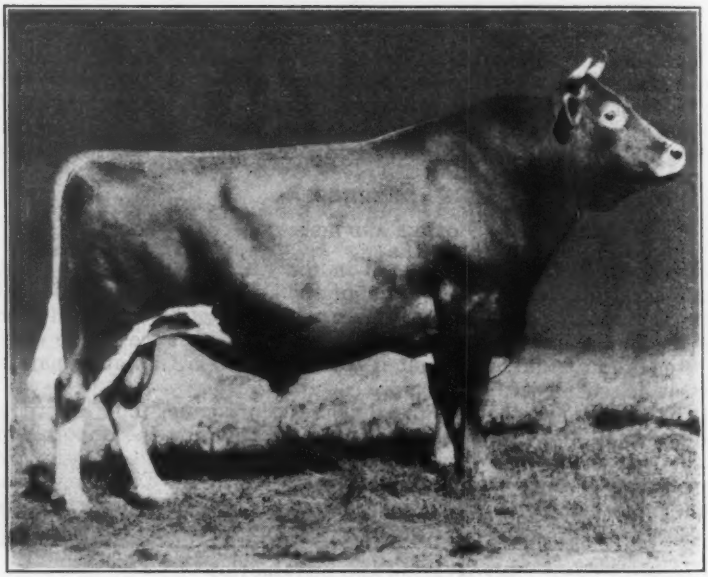

FIG. 13.—Guernsey bull, Border King of Roberts 71645. Grand Champion, National Dairy Show, 1927

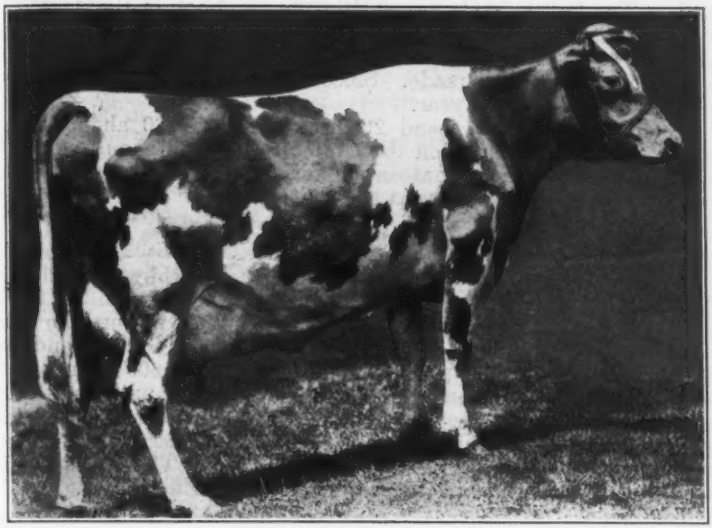

FIG. 14.—Guernsey cow, Anesthesia Faith of Hill Stead 114354. Champion butterfat producer of the breed

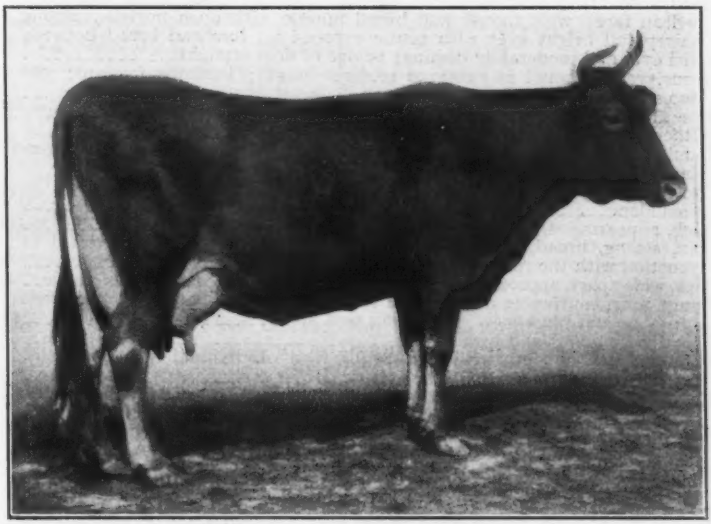

FIG. 15.—Guernsey cow, Murne Cowan 19597. Champion milk producer of the breed

eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

According to Tables 1 and 2, there were in 1920 about 80,000 registered Guernsey cattle in the United States and about 1,900,000 grades. It is estimated that on January 1, 1929, there were about 165,000 registered Guernseys in the United States.[3]

GENERAL CHARACTERISTICS

In size the Guernseys are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth, and reach maturity early. When mature the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

Scale of points for Guernsey cow

Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing femininity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel, deep and long, with well-sprung ribs. Individual ribs, long, flat, wide apart, and free from excess tissue	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern, strong and springy	2
Hide, loose and pliable, and not thick, with oily feelings; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bone and hair; nicely balanced switch	2

[3] See footnote 1, p. 6.

Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins long, tortuous, prominent, and branching, with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

PRODUCTION

Guernsey milk has a high per cent of butterfat and a yellow color. The 27,210 cows and heifers that completed official records up to January 1, 1929, produced an average per cow of 9,775 pounds of milk and 488.1 pounds of butterfat, the average test being 4.99 per cent. The 10 highest butterfat and milk producers among the Guernseys are listed below.

Ten highest Guernsey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Anesthesia Faith of Hill Stead 114354	1,112.50	Murne Cowan 19597	24,008
Countess Prue 43785	1,103.30	Pet of La Grange 2d 48429	21,968
Murne Cowan 19597	1,098.20	Peterkin's Beauty of Fairview S. 112241	21,111
May Rilma 22761	1,073.41	Katherine's Trixie 100396	21,071
Gertrude Claire 99550	1,020.00	Gertrude Claire 99550	20,738
Nella Jay 4th 38233	1,019.30	Nella Jay 4th 38233	20,710
Langwater Nancy 27943	1,011.70	Molly's Lassie 86472	20,592
Dairy Maid Queen of Spring Hill 74067	1,011.20	St. Austell Daffodil 84890	20,491
Langwater Hope 27946	1,003.20	Miss Daisy of Maple Hill 72610	20,315
Lillia of Iowa 2d 61500	998.40	Tom's Daisy 54541	20,298

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to January 1, 1929, are listed below.

Ten Guernsey sires having the largest number of Advanced-Register daughters

Sire	Number of daughters	Sire	Number of daughters
Governor of the Chêne (R. G. A. S. 1297 P. S.)	114	Florham Laddie 20431	56
Yeoman's King of the May 17053	109	Galaxy's Sequel 16904 (imported)	53
Langwater Demostrator 16451	76	Langwater Foremost 39191, A. R.	50
Masher's Sequel 11462 (imported)	70	Ne Plus Ultra 15265	48
Clara's Sequel 29414 (imported)	65	Beda's May King 11893	47

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in northern Holland, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word "Holstein" is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

According to Tables 1 and 2 there were in 1920 about 528,000 registered Holsteins in the United States and about 10,500,000 grades. It is estimated that on January 1, 1929, there were about 754,000 registered Holsteins in the United States.[4] Holstein cattle are found throughout all the 48 States though by far the largest number are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These six States contain more than 60 per cent of the registered Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

Scale of points for Holstein-Friesian cow

Forehead, broad between the eyes; dishing	2
Face, of medium length; clean cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws strong	3
Ears of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3

[4] See footnote 1, p. 6.

Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	5
Chine, straight; strong; broadly developed, with open vertebræ	4
Loin and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 31,392 official records of Holstein cows and heifers that were completed up to January 1, 1929, show an average yearly production of 16,070 pounds of milk and 544.49 pounds of butterfat, the average being 3.38 per cent.

The 10 highest butterfat and milk producers among the Holsteins are listed below.

Ten highest Holstein yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Daisy Aaggie Ormsby 3d 571569	1,286.23	Segis Pietertje Prospect 221846	37,381
May Walker Ollie Homestead 300043	1,218.59	Helm Veeman Woodcrest 486877	36,218
Hollywood Lilith Palmyra Abbekerk 400491	1,206.79	Kolrain Marion Finderne 317396	35,340
Duchess Skylark Ormsby 124514	1,205.09	Kolrain Finderne Bess 291570	35,085
Carnation Walker Hazelwood 834565	1,198.85	Kathleen Triumph 1032712	34,972
Bess Johanna Ormsby 263431	1,198.09	Nooksack Lunde Oregon De Kol 301119	34,511
Redfield Segis Johanna 735950	1,182.93	Queen Carlotta De Kol 311674	34,430
Finderne Pride Johanna Rue 121083	1,176.47	Adirondac Wietske Dairy Maid 204072	34,402
Queen Bessie Pietertje Ormsby 648084	1,172.75	Grahamholm Colantha Pauline Segis 405465	34,292
Segis Pietertje Prospect 221846	1,158.95	Princess Aaggie Polkadot De Kol 372024	34,071

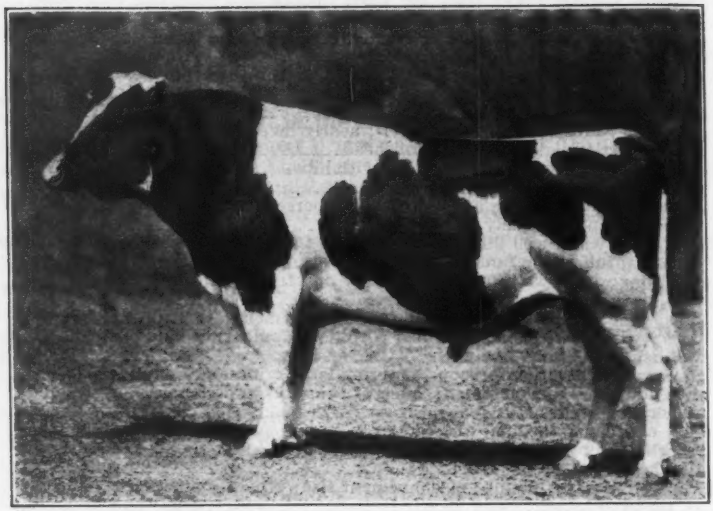

FIG. 16.—Holstein bull, King of the Ormsbys 178078. He has 105 yearly-record daughters in the Advanced Register

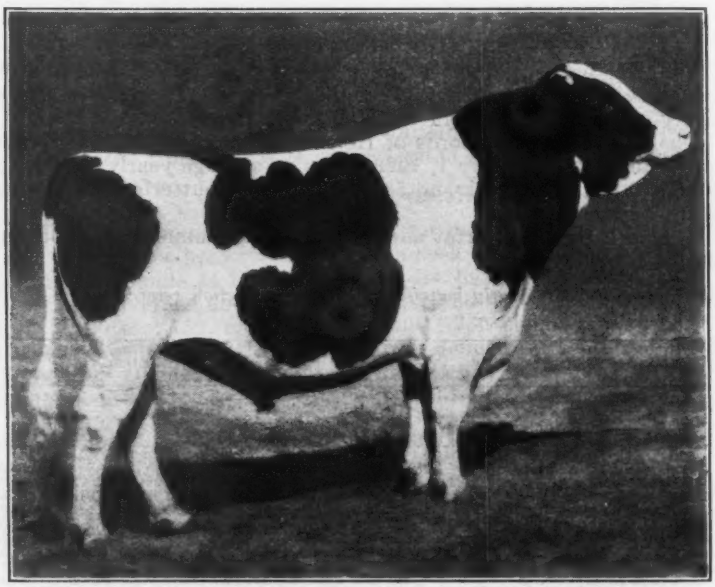

FIG. 17.—Holstein bull, Sir Fobes Ormsby Hengerveld 412147. Grand champion, National Dairy Show, 1927

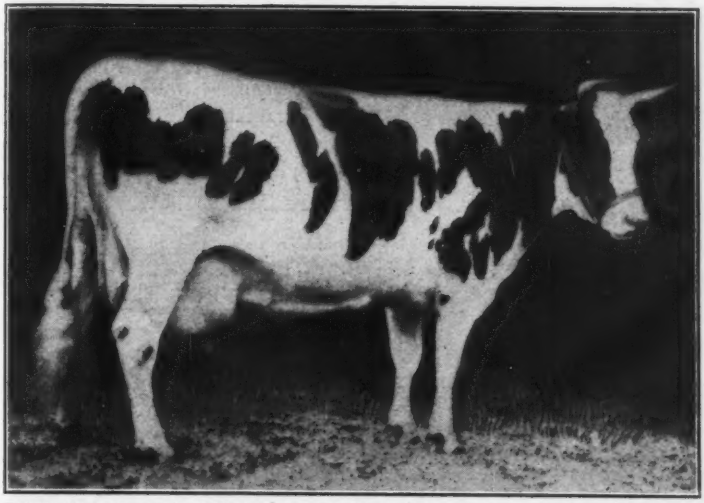

FIG. 18.—Holstein cow, Segis Pietertje Prospect 221846. Has highest yearly milk record of all the breeds

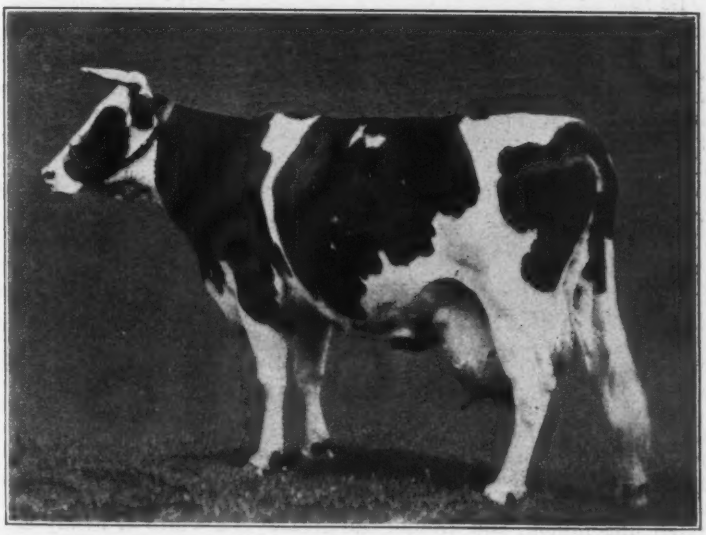

FIG. 19.—Daisy Aaggie Ormsby 3d 571569. Has highest yearly butterfat record of all the breeds in the United States

BULLS

The 10 Holstein-Friesian sires having the largest number of daughters with yearly records, up to January 1, 1929, are listed below.

Ten Holstein sires with the largest number of yearly-record daughters

Sire	Number of daughters	Sire	Number of daughters
King of the Ormsbys 178078	105	Sir Johanna Fayne 42147	73
Matador Segis Walker 148839	91	Dutchland Colantha Sir Inka 50999	72
Sir Inka Prilly Segis 80914	80	King Segis Alcartra Prilly 192705	71
King Pontiac Champion 53418	75	Colantha Sir Walker Korndyke 95460	70
Judge Segis 80912	74	Sir Pietertje Ormsby Mercedes 44931	70

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. There were about 232,000 registered and about 9,300,000 grade Jerseys in this country in 1920, well scattered throughout all the 48 States. It is estimated that on January 1, 1929, there were about 342,000 registered Jerseys in the United States.[5]

GENERAL CHARACTERISTICS

The Jersey is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

[5] See footnote 1, p. 6.

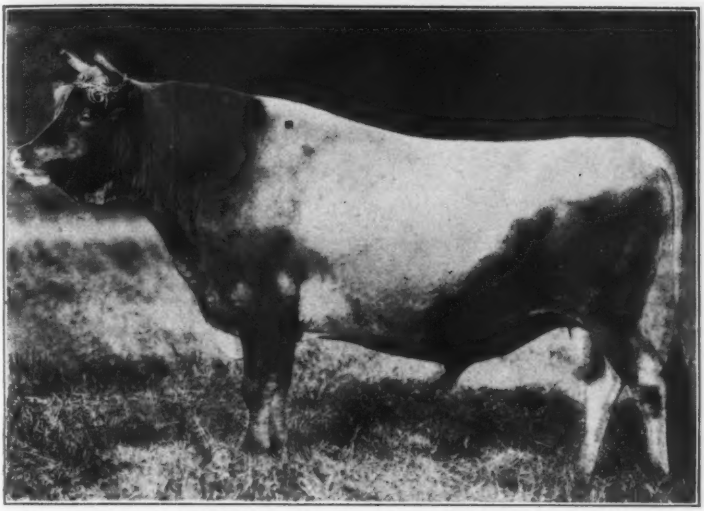

FIG. 20.—Jersey bull, Dairylike Majesty 198188. He has 125 daughters in the Register of Merit

FIG. 21.—Jersey bull, Fern's Rochette Noble 193011. Grand champion, National Dairy Show, 1927

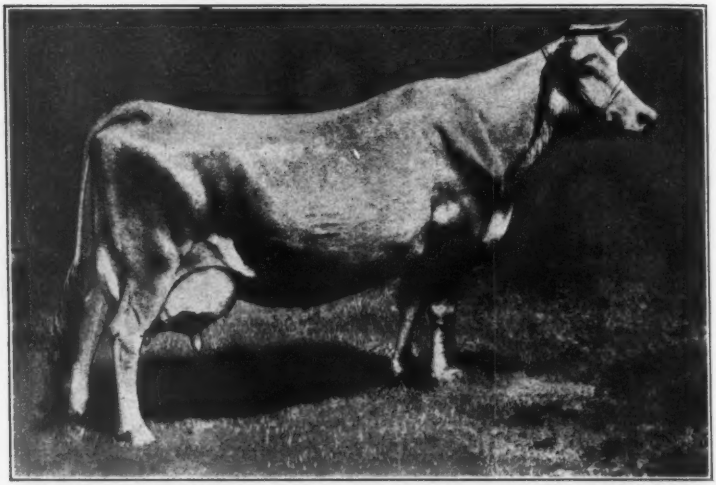

FIG. 22.—Jersey cow, Abagail of Hillside 457241. Champion milk and butterfat producer of the breed

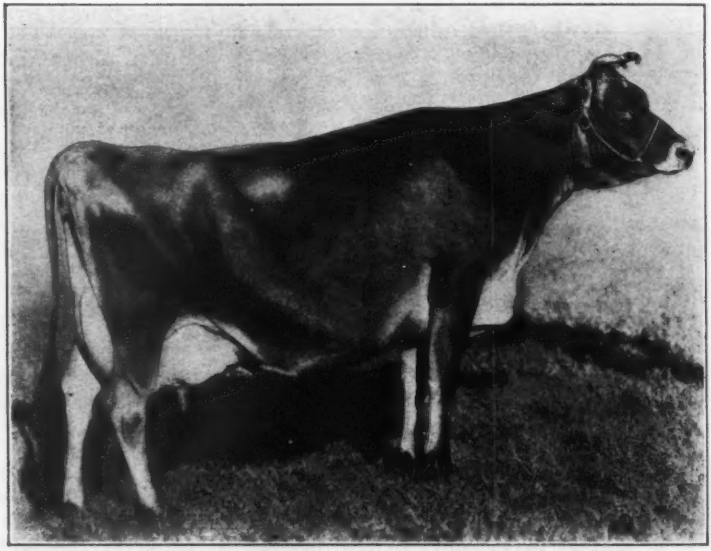

FIG. 23.—Jersey cow, Imp. Mytilda's Belle 699929. Grand champion, National Dairy Show, 1928

Scale of points for Jersey cow

DAIRY TEMPERAMENT AND CONSTITUTION

Head, 7:	
A. Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
B. Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong	4
Neck, 4:	
Thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body, 37:	
A. Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
B. Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development	10
C. Back straight and strong, with prominent spinal processes; loins broad and strong	5
D. Rump long to tail setting, and level from hip bones to rump bones	6
E. Hip bones high and wide apart	3
F. Thighs flat and wide apart, giving ample room for udder	3
G. Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking	2
H. Hide loose and mellow	2
I. Tail thin, long, with good switch, not coarse at setting on	1

MAMMARY DEVELOPMENT

Udder, 26:	
A. Large size, flexible, and not fleshy	6
B. Broad, level or spherical, not deeply cut between teats	4
C. Fore udder full and well rounded, running well forward of front teats	10
D. Rear udder well rounded, and well out and up behind	6
Teats, 8:	
Of good and uniform length and size, regularly and squarely placed	8
Milk veins, 4:	
Large, long, tortuous and elastic, entering large and numerous orifices	4
Size, 4:	
Mature cows, 800 to 1,000 pounds	4
General appearance, 10:	
A symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal, with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and rich in butterfat. The 37,875 cows and heifers that had Register-of-Merit records up to January 1, 1929, averaged 8,466 pounds of milk and 453.09 pounds of butterfat a year, with an average test of 5.35 per cent.

The 10 highest butterfat and milk producers among the Jerseys are listed below.

Ten highest Jersey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Abagail of Hillside 457241	1,197.51	Abagail of Hillside 457241	23,677
Darling's Jolly Lassie 435948	1,141.28	Madeline of Hillside 389336	20,624
Groff's Constance 367292	1,130.09	Fauvic's Star 313018	20,616
Prince's Emma of H. S. F. 359390	1,109.99	Fauvic Ruth 385463	19,805
Lad's Iota 350672	1,048.07	Passport 219742	19,695
Fauvic Ruth 385463	1,047.28	Red Lady 396118	19,608
Imperial Isabel 447661	1,045.14	Sybil's Miss May 477787	19,239
Madeline of Hillside 389336	1,044.05	Lad's Likeness 338246	19,223
Plain Mary 268206	1,040.08	Eminent's Jimp's Owl 297471	19,099
Vive La France 319616	1,039.29	Raleigh's Torono's Meme 544207	19,076

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to January 1, 1929, are listed below.

Ten Jersey sires with largest number of daughters in Register of Merit

Sire	Number of daughters	Sire	Number of daughters
Dairylike Majesty 198188	125	Sybil's Gamboge 174663	83
Pogis 99th of Hood Farm 94502	121	Hood Farm Pogis 9th 55552	79
Sophie 19th's Tormentor 113302	88	Hood Farm Torono 60326	73
Imported Oxford You'll Do 111860	84	Imported Golden Fern's Noble 145762	66
Royal Majesty of St. Cloud 89541	83	Irene's King Pogis 73182	64

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations and their addresses are as follows:

American Guernsey Cattle Club, Peterboro, N. H.
American Jersey Cattle Club, 324 West Twenty-third Street, New York City.
Ayrshire Breeders' Association of the United States of America, Brandon, Vt.
Brown Swiss Cattle Breeders' Association, Beloit, Wis.
Dutch Belted Cattle Association of America, Rockville, Conn.
Holstein-Friesian Association of America. Brattleboro, Vt.

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DAIRY CATTLE BREEDS

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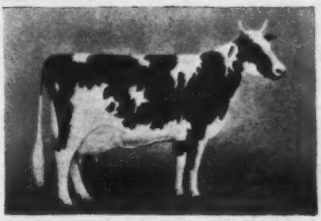
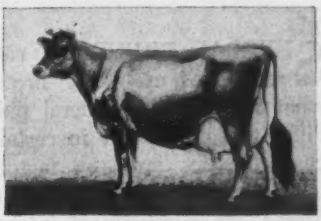
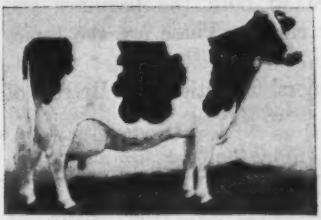
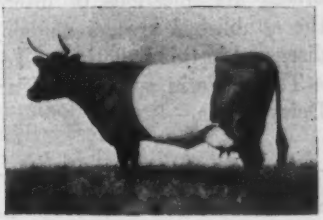





XUM

SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

Washington, D. C Issued February, 1925; revised January, 1932

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *Senior Dairy Husbandman, Bureau of Dairy Industry*

CONTENTS

	Page		Page
Dairy cattle in the United States	1	Brown Swiss	11
What is a dairy breed?	3	Dutch Belted	15
Registration	3	Guernsey	18
Which breed to select	4	Holstein-Friesian	22
The score card	6	Jersey	27
Ayrshire	6	Breed associations	30

DAIRY CATTLE IN THE UNITED STATES

ACCORDING to estimates made by the United States Department of Agriculture there were about 33,000,000 dairy cattle of all ages in the United States on January 1, 1929. Three per cent of these cattle, or about 1,000,000, are purebred, and represent six breeds, namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. The improvement that must be made in the 97 per cent that are not purebred must come largely from the 3 per cent that are purebred. Likewise, any increase in the number of our purebred dairy cows, and even the maintenance of our grade dairy herds at their present number and efficiency, will be accomplished principally through the use of purebred bulls. For these reasons purebred dairy cattle have played in the past and will play in the future a very important rôle in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various breeds in the United States, by sections and by States. The information in Table 1, showing total number of each breed on January 1, 1920, was brought out by an inquiry sent to 14,000 special livestock reporters of the branch then known as the Bureau of Markets and Crop Estimates of the United States Department of Agriculture. Grades and scrubs were listed with the respective breeds to which they seemed to belong.

Table 2 shows the number of registered purebreds of the dairy breeds on January 1, 1920, as ascertained by the census.

Table 3 gives the average annual production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 1.—*Estimated number and percentage of cattle of dairy breeds, including purebreds and grades, in the United States, January 1, 1920, by sections*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Ayrshire	412,000	1.8	5.8	0.8	1.9	0.7	.....	0.8
Brown Swiss	170,000	.7	.5	1.3	1.3	.3	.....	.4
Dutch Belted	157,000	.7	.5	.2	.6	.3	2.3	.....
Guernsey	1,993,000	8.5	10.6	12.1	11.9	8.4	1.3	5.1
Holstein-Friesian	11,069,000	47.4	65.3	56.2	54.3	21.1	17.3	58.9
Jersey	9,554,000	40.9	17.3	29.4	30.0	69.2	79.1	34.8
Total	23,355,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1920, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	916,602	30,509	8,283	79,446	528,621	231,834	37,909
Geographic divisions:							
New England	85,724	9,780	349	10,311	42,721	20,305	2,258
Middle Atlantic	239,764	12,883	1,904	21,114	171,124	25,815	6,924
East North Central	289,859	3,735	4,199	29,640	185,475	57,167	9,643
West North Central	106,967	1,859	1,386	8,250	62,055	23,697	9,720
South Atlantic	49,119	519	43	5,949	15,445	25,245	1,918
East South Central	34,651	27	3	298	5,902	27,024	1,397
West South Central	43,268	60	13	263	9,724	30,650	2,558
Mountain	22,534	324	146	838	12,689	6,926	1,611
Pacific	44,716	1,322	240	2,783	23,486	15,005	1,880
New England:							
Maine	15,683	1,134	62	1,836	7,206	4,999	446
New Hampshire	10,750	1,214	75	1,151	6,695	1,348	267
Vermont	28,549	3,808	59	2,193	13,413	8,446	630
Massachusetts	18,807	1,880	80	3,348	10,006	2,904	589
Rhode Island	1,651	494		217	542	351	47
Connecticut	10,284	1,250	73	1,566	4,859	2,257	279
Middle Atlantic:							
New York	153,037	9,521	1,347	9,749	114,662	13,411	4,347
New Jersey	11,538	265	23	1,747	7,810	1,368	325
Pennsylvania	75,189	3,097	534	9,618	48,652	11,036	2,252
East North Central:							
Ohio	70,882	1,021	324	4,960	38,327	23,842	2,408
Indiana	21,115	509	131	1,215	8,477	9,921	862
Illinois	36,412	202	1,385	1,369	25,124	7,317	1,015
Michigan	46,533	291	429	3,369	32,702	8,296	1,446
Wisconsin	114,917	1,712	1,930	18,727	80,845	7,791	3,912
West North Central:							
Minnesota	32,668	390	483	4,468	22,830	2,508	1,980
Iowa	20,286	271	447	1,716	10,916	3,629	3,307
Missouri	19,037	110	135	760	5,569	10,708	1,755
North Dakota	4,797	226	23	346	2,937	481	784
South Dakota	5,248	85	119	135	4,027	312	570
Nebraska	7,873	74	38	348	5,368	1,275	770
Kansas	17,058	694	141	477	10,408	4,784	554
South Atlantic:							
Delaware	1,691	1		246	1,245	172	27
Maryland	8,668	113	9	1,867	4,073	2,323	283
District of Columbia	186			1	175	10	
Virginia	9,586	25		1,696	4,160	3,223	482
West Virginia	4,450	272	32	333	1,134	2,546	133
North Carolina	7,697	44	1	789	1,613	4,978	272
South Carolina	5,184	4		644	1,008	3,389	139
Georgia	8,727	14	1	305	1,700	6,224	483
Florida	2,930	46		68	337	2,380	99
East South Central:							
Kentucky	8,829	20		40	2,046	6,421	302
Tennessee	11,347	2	1	111	1,383	9,424	426
Alabama	6,106	4	2	46	1,142	4,608	306
Mississippi	8,367	1		101	1,331	6,571	363
West South Central:							
Arkansas	6,950	3	1	19	2,001	4,627	299
Louisiana	3,415	1	2	94	1,009	2,201	108
Oklahoma	9,539	37	3	91	3,741	5,104	563
Texas	23,364	19	7	59	2,973	18,718	1,588
Mountain:							
Montana	3,451	13	54	176	2,453	560	195
Idaho	4,138	46	48	197	2,049	1,579	219
Wyoming	1,071	21	14	31	747	167	91
Colorado	6,448	114	30	241	4,057	1,605	401
New Mexico	1,327			42	438	507	340
Arizona	2,772	109		48	1,778	669	168
Utah	2,922			93	970	1,706	153
Nevada	405	21		10	197	133	44
Pacific:							
Washington	12,720	404	69	941	7,673	3,402	231
Oregon	12,852	323	135	697	3,624	7,771	302
California	19,144	595	36	1,145	12,189	3,832	1,347

[1] Including animals reported as purebred, but with breed not specified.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that have official yearly records*

Breed	Cows and heifers	Date	Milk	Butterfat	
				Quantity	Test
	Number		*Pounds*	*Pounds*	*Per cent*
Ayrshire	8,373	Jan. 1, 1931	10,376	413.0	3.98
Brown Swiss	583	do	13,199	528.0	4.00
Dutch Belted	71	do	10,591	414.9	3.92
Guernsey	33,231	Apr. 1, 1931	9,976	493.8	4.95
Holstein	37,039	Jan. 1, 1931	16,063	545.0	3.39
Jersey	43,983	do	8,492	454.8	5.36

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of purebred dairy cattle to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a purebred dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A purebred dairy animal is one that meets the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, and through progressive improvement such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either purebreds or grades; but to prevent misunderstanding it is desirable to precede the breed name with the word "purebred" or "grade."

In addition to the breeds of dairy cattle mentioned, certain other breeds having good milking qualities are kept for dairy purposes. Such cattle, which are often referred to as dual-purpose animals because of their ability to produce satisfactory carcasses as well as a good milk flow, include the Shorthorn, Red Polled, and Devon. The qualities of these are discussed in Farmers' Bulletin 612, "Breeds of Beef Cattle."

REGISTRATION

A purebred dairy animal is one whose sire and dam are eligible to be recorded by name and number in a register of the breed, commonly called the herdbook. An animal thus qualified may itself be recorded in the same herd register, provided the sire and dam are registered, and provided it also qualifies with regard to color. Additional rules and requirements for registration are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the associations concerned, as listed on page 30 of this bulletin.

In addition to the herd register, there is for each breed another register in which are entered the names of purebred cows that have

completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The requirements for admission to this special register of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question of which breed to choose, and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are: (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with purebreds may feel that since all his neighbors have one breed of cattle, he should get another breed so as to have a monopoly in the business of selling breeding stock. There is no question about the monopoly, but there would probably be no business to monopolize. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed, buyers are attracted to the locality because of the better chance to get the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good purebred bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with purebreds. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

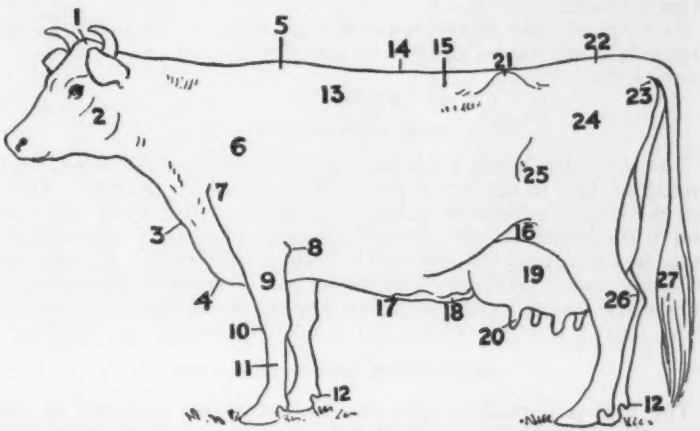
In a district where no breed is established, or in sections where all the different breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder can not shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIGURE 1.—Diagram of cow showing names and location of parts

price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds, and other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful a diagram is given in Figure 1, which names and locates the various parts referred to on the score cards.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. As indicated by Tables 1 and 2, there were in 1920 about 30,000 registered Ayrshires in the United States and fewer than 400,000 grades carrying more or less Ayrshire blood. It is estimated that on January 1, 1931, there were about 55,000 registered Ayrshires in the United States.[1] Ayrshires are scattered through practically all the States, though by far the largest numbers are in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even, the teats medium in size and well placed.

[1] This figure was obtained by assuming that the relation between the number of animals registered 1914–1920 and the number of living animals in 1920 is the same as the relation between the number of animals registered 1924–1930 and the number of living animals in 1930.

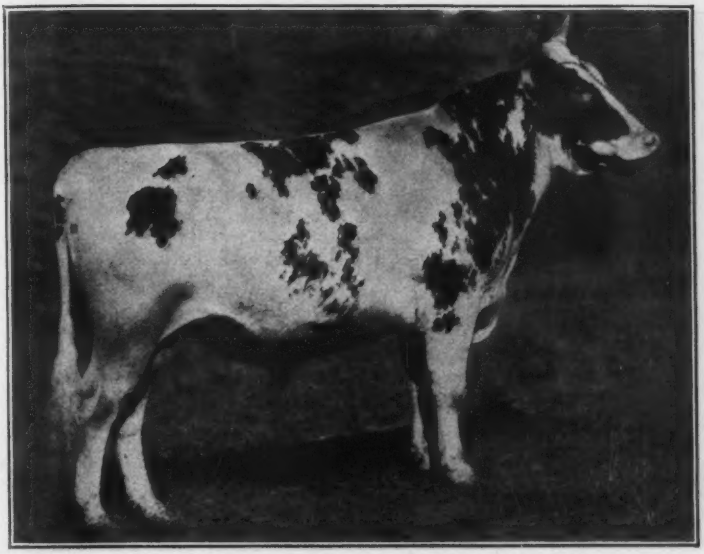


FIGURE 2.—Ayrshire bull, Willoxton Satisfaction 42680. Grand champion, National Dairy Show, 1930

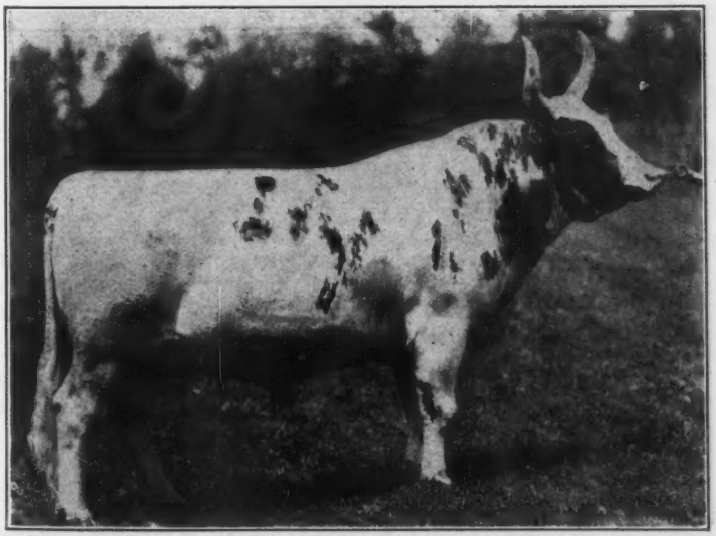


FIGURE 3.—Ayrshire bull, Penhurst Rising Star 20922. Seventy-two of his daughters are in the Advanced Registry

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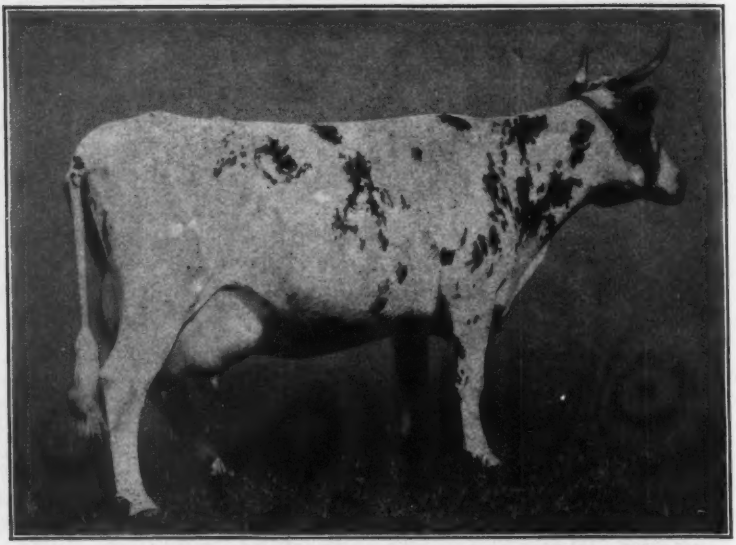

FIGURE 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed

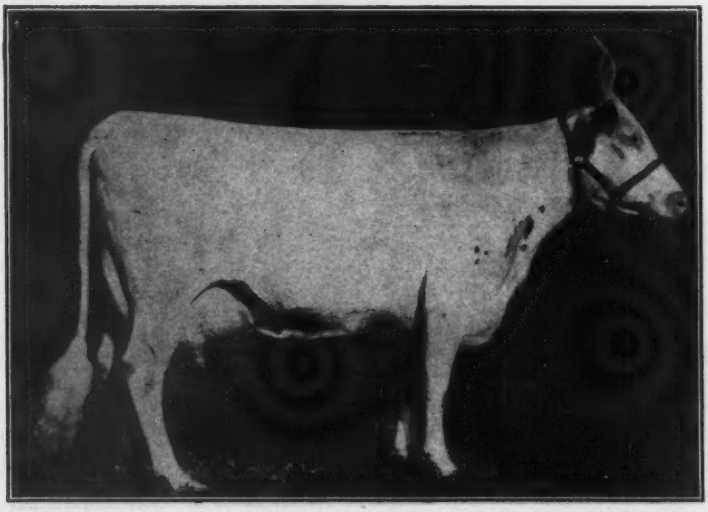

FIGURE 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed

Scale of points for Ayrshire cow [1]

SECTION 1

	Points
Forehead, reasonably broad between the eyes, and slightly dished	1
Face, of medium length, clean cut, feminine; the bridge of the nose straight to nostrils	1
Muzzle, broad and strong, with large open nostrils	2
Jaws, wide at the base, well muscled, and strong	1½
Eyes, moderately large, placid, full, and bright	1½
Ears, medium size, fine, and carried alertly	½
Horns, small at base, not coarse nor too long; inclining upwards	1½
Neck, medium length, smoothly blending with shoulders and throat, showing feminine refinement	2
Shoulders, long, sloping and tapering from the base to the top of the shoulder blades; neatly and firmly attached to the body wall; tops of the blades not extending to the top of chine	5
Chest, full, and wide between and back of forearms; brisket light and refined	5
Chine, straight, strong, open jointed, narrow at the top, nicely blending into shoulders and a well-sprung rib	3
Crops, full, level with shoulders	4
Barrel, medium length, deep, but strongly held up; rib, well sprung; bones long, flat, and wide apart	10
Loin, broad, strong, and level with hips	4
Rump, long, wide; top line level to tail head, with pin bones nearly level with hip bones; dishing to thurls	7
Hips, wide; level with back line; points well defined and not overlaid with fat	2
Pin bones, wide apart; nearly level with hips	2
Thurls, widely set; slightly below line from hip bones to pins	1
Tail, neatly set, level with back line, long and fine	1
Flank, deep, slightly arched, and refined	1
Thighs, deep, straight and trim when viewed from the side; flat and broad on side when viewed from rear, twist well cut out for udder development, with escutcheon well defined	2
Mammary development:	
Attachment of udder, attached well forward with a neat and firm junction at body wall; carried high behind, no evidence of breaking of tissues supporting front quarters nor of dropping of floor of udder	6
Size and shape of udder, broad, level, capacious, quarters even and of uniform size extending well forward, and high behind; not severely cut between the quarters neither through nor across	10
Texture of udder, fine, pliable, and of good quality, with light skin	4
Size, shape, and placement of teats, convenient size, symmetrical, hanging perpendicular	5
Veining and milk wells, mammary veins large, long, tortuous, branching, and entering large orifices; small veins clearly defined on udder	5
Legs and feet, widely and squarely set under body; clean flat bone; front legs straight, hind legs nearly straight when viewed from rear; hocks neatly and firmly molded; feet round with plenty of depth at heels	8
Hide and hair, mellow, elastic hide of medium thickness; hair fine and soft	4
Perfect score	100
Actual score	
Points to be deducted for deficiency in breed characteristics	
Points to be deducted for blemishes, unsoundnesses, or overfitting	
Total deductions	
Net score	

[1] Preliminary report, submitted by a joint committee representing the Ayrshire Breeders' Associations of the United States and Canada. Final report not issued at time of going to press. Section 1 covers anatomy only. In addition to the scale of 100 points (Sec. 1), based on the anatomy of the Ayrshire cow, supplementary schedules are provided covering breed characteristics (Schedule A), and deficiencies caused by blemishes and unsoundnesses (Schedule B). Before completing the scoring of an animal it is urged that both supplementary schedules be studied and the proper deductions made from the net anatomical score.

Supplemental Schedule A must be computed and any deductions made under this schedule deducted from result of score of section 1 to complete score of an Ayrshire cow. Supplemental Schedule B is to be used as directed in cases of animals showing unnatural defects or blemishes or extreme overfitting.

XUM

SCHEDULE A

	Points
Style, alert but docile; having an impressive carriage; graceful walk, and above all displaying evidence of outstanding dairy character	6
Symmetry and balance, a symmetrical balancing of all the parts and the proper proportioning of the various parts to each other	7
Weight, mature cows should weigh from 1,100 to 1,400 pounds, depending on period of lactation	5
Color, red of any shade, mahogany, brown, or these with white, or white, each color clearly defined; distinctive red and white markings preferable; markings of solid black or brindle strongly objectionable	2
Total, perfect score	20
Actual score	
Total deductions for deficiency in breed characteristics	

SCHEDULE B

	Deduct up to—
A slight deficiency in one quarter of the udder	5
A marked undevelopment of one or more quarters which are not functioning or two slightly deficient quarters	15
An udder that has plainly lost evidence of normal attachment and has become entirely pendulous	20
Evidence of an obstruction or a side leak in a teat	5
An indication of decided lameness which may be permanent	10
Lameness plainly indicated to be only temporary	3
Minor defects such as blindness in either eye, capped hips, enlarged knees and hocks, slight ruptures, enlarged glands or other blemishes	5
Animals of any age presenting unmistakable evidence of extreme overfitting to the point of impairing future usefulness or preventing reasonable discernment of natural conformation	25
Total deductions for blemishes and unsoundnesses	

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average of all the dairy breeds. The 8,373 cows and heifers that completed official records up to January 1, 1931, produced an average of 10,376 pounds of milk per cow, containing 413 pounds of butterfat, or 3.98 per cent butterfat.

Ten highest Ayrshire yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.56	Garclaugh May Mischief 27944	25,329
Vi's Bountiful Lassie 58096	923.21	Vi's Bountiful Lassie 58096	24,556
Auchenbrain Brown Kate 4th 27943	917.60	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.91	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.33	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.13	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.21	Nancy Whitehall 47810	22,074
Jean Armour 3d 32219	859.65	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.77	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.41	Willowmoor May Mischief 2d A 34173	21,161

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1931, are listed below:

Ten Ayrshire sires having the largest number of Advanced-Registry daughters

Sire	Number of daughters	Sire	Number of daughters
Penshurst Man O'War 25200	82	Baron's Best of Bargenoch 12858 (imported)	53
Penshurst Rising Star 20922	72	Netherton Statesman 16431 (imported)	53
Leto 14560	69	Penshurst Sir Robert 20029	46
Kate's Champion of Penshurst 18782	61	Earle's Choice of Spring Hill 8289	43
Beuchan Peter Pan 12971 (imported)	58		
Finlayston 8882 (imported)	56		

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where the breed has been developed during many centuries. It is probably one of the oldest in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. A number of importations have been made since, but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of the foot-and-mouth disease in Europe. As shown in Tables 1 and 2, there were in 1920 in the United States about 8,000 registered animals and about 162,000 grades carrying more or less Brown Swiss blood. It is estimated that on January 1, 1931, there were about 30,000 registered Brown Swiss in the United States.[3] Brown Swiss are scattered in 37 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio. Of late years the breed has made notable increase in popularity.

[3] See footnote 1, p. 6.

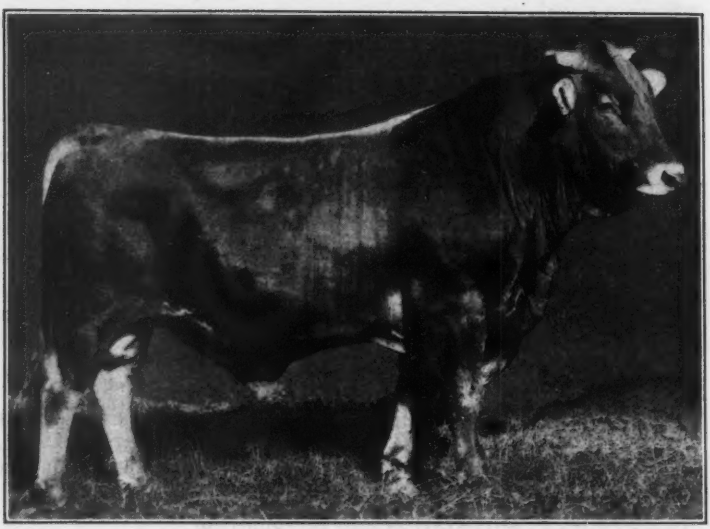

FIGURE. 6.—Brown Swiss bull, Reuben 2927. Twenty-five of his daughters are in the Advanced Registry

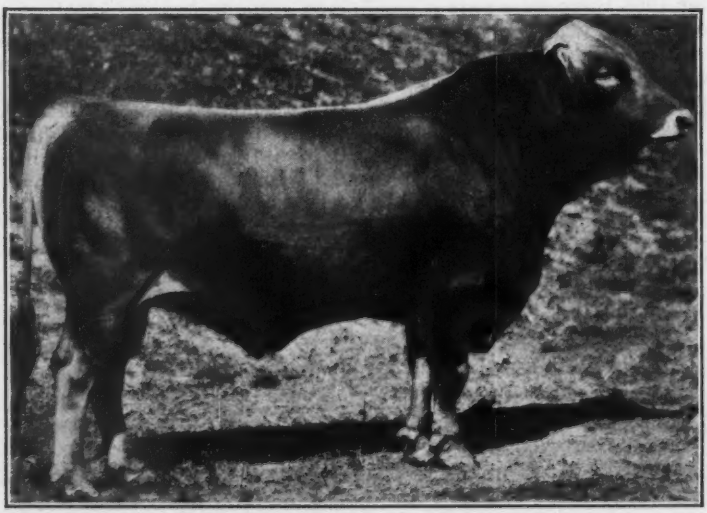

FIGURE 7.—Brown Swiss bull, March Molly 3d's Master 14350. Grand Champion, National Dairy Show, 1930

FIGURE 8.—Brown Swiss cow, Swiss Valley Girl 10th 7887. Champion milk and butterfat producer of the breed

FIGURE 9.—Brown Swiss cow, King's Pebblebrook Phylis Torbel 20002. Grand champion, National Dairy Show, 1930

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh. The calves weigh from 65 to 90 pounds at birth. The heifers are slow in maturing. When full grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually of a lighter shade than that on the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

Scale of points for Brown Swiss cow or heifer

	Points	
Head		10
Size and form, medium and rather long	2	
Face, dished, narrow between horns, and wide between eyes	2	
Ears, fringed inside with light-colored hair, medium size, and carried alert	1	
Muzzle, large and square, with mouth surrounded by mealy-colored band, nose and tongue black	2	
Eyes, full and bright	2	
Horns, short, not too heavy, regularly set with black tips	1	
Neck, of good length, throat clean, neatly joined to head and shoulders, moderately thin at the withers		5
Fore quarters		9
Shoulders, not too heavy and smoothly blending into body	4	
Chest, deep and full between and back of forelegs	4	
Brisket, medium	1	
Body		13
Back, level to setting of tail and broad across the loin	6	
Ribs, long and broad, wide apart, and well sprung	3	
Barrel, long, deep, and well rounded	4	
Hind quarters		10
Hips, wide, pin bones high and wide apart, rump long and level from hip bones to tail setting	6	
Thighs, flat and wide apart, giving ample room for udder	2	
Tail, slender, well set on, with good switch	2	
Legs, of medium length and straightness, with good hoofs		2
Hide		5
Medium thickness, mellow and elastic	3	
Color, shades from dark to light brown, at some seasons of the year gray; white splashes on underline of belly are objectionable but do not disqualify; dark smoky skin objectionable; hair between horns usually of lighter shade than that on body	2	
Udder		32
Size, long, wide, deep but not pendulous or fleshy	6	
Attachment, firmly attached to the body	4	
Veins, udder veins well developed and plainly visible	2	
Balance, extending well up behind and far forward, quarters even	5	
Sole, nearly level and not indented between teats	2	
Teats, of good uniform length and size, regularly and squarely placed	6	
Texture, mellow, free from meatiness	7	
Mammary veins, large, long, tortuous, elastic, and entering good wells		6
Disposition, quiet but alert		2
General appearance		6
Total		100

PRODUCTION

The Brown Swiss produces milk of average quality compared with the other breeds of dairy cattle. The 583 cows and heifers that completed yearly records and were admitted to the Register of Production up to January 1, 1931, have an average yearly production of 13,199 pounds of milk and 528.03 pounds of butterfat per cow, with an average butterfat test of 4 per cent. The 10 highest butterfat and milk producers among the Brown Swiss are listed below.

Ten highest Brown Swiss yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Swiss Valley Girl 10th 7887	1,106.33	Swiss Valley Girl 10th 7887	27,514
June's College Girl 11427	1,062.30	Believe 4245	25,848
Swiss Girl F. C. 13853	1,003.76	Alice Lee 2d 8777	24,845
Believe 4245	1,002.62	June's College Girl 11427	24,572
Forest Girl of Lake View 11998	971.34	Forest Girl of Lake View 11998	23,556
Millicent of Walhalla 11178	961.58	Swiss Girl F. C. 13853	23,236
Hawthorne Dairy Maid 6753	927.23	Olympe of Walhalla 10309	23,023
Alice Lee 2d 8777	914.38	Clothilda Werder's Aggie 10691	22,809
Miss Dixon 12116	891.06	Hawthorne Dairy Maid 6753	22,765
Nancy V. 2d 12104	885.80	Sterling Pride of Lake View 9530	22 597

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to January 1, 1931, are listed below:

Ten Brown Swiss sires having the largest number of daughters in Register of Production

Sire	Number of daughters	Sire	Number of daughters
Reuben 2927	25	Swiss Valley Reuben 6074	11
Sunny Hill Bob 6170	14	Nellie's Stasis 6721	11
Vogel's College Boy 5638	13	Junker 2365	10
College Master 2986	12	Coniston 7404	10
Ilda's College Boy 6663	12	Tom Phylis 1769	10

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in Holland about two centuries ago. The breed gets its name from both the original home and from the distinctive color marking. It has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes.

XUM

These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in America. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. It is estimated by the Dutch Belted Association of America that on January 1, 1929, there were 1,800 registered animals of this breed in the United States.

GENERAL CHARACTERISTICS

Dutch Belted cattle have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof, and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

Scale of points for Dutch Belted cow

Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders, fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel, large and deep with well-developed abdomen; ribs well rounded and free from fat	10
Hips, broad, and chine level, with full loin	10
Rump, high, long, and broad	6
Hind quarters, long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs, short, clean, standing well apart	3
Udder, large, well-developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair, fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

PRODUCTION

By referring to Table 3 it will be seen that in the percentage of butterfat contained in her milk the Dutch Belted cow ranks between the Holstein and the Ayrshire. The 71 Dutch Belted cows and heifers that finished yearly official records up to January 1, 1931, show an average production of 10,591 pounds of milk and 414.89 pounds of butterfat, with an average test of 3.92 per cent.

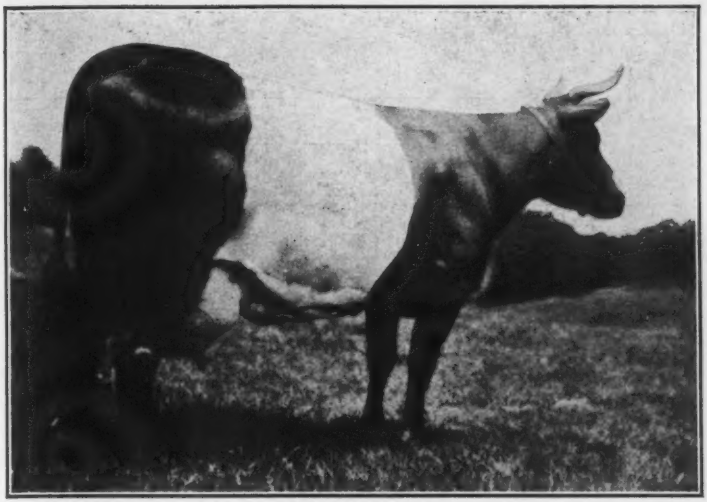

FIGURE. 10.—Dutch Belted cow, Loraine of Brunswick 3020. Leading butterfat and milk producer of the breed

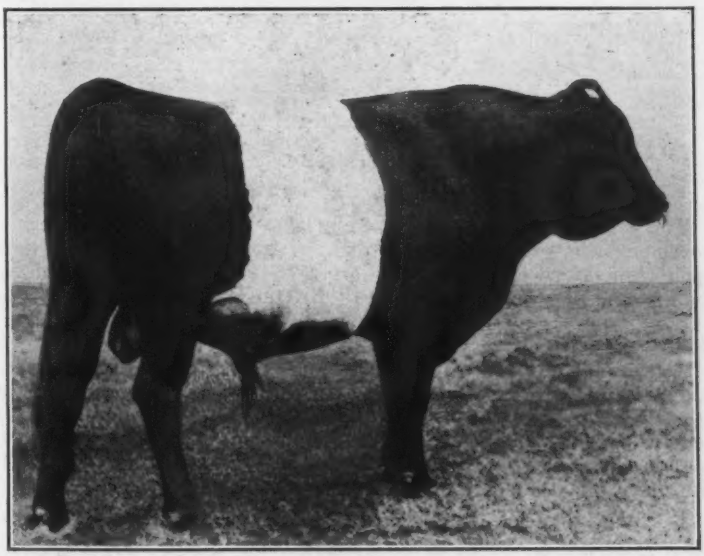

FIGURE 11.—Dutch Belted bull, Keith 934. He has nine daughters in the Advanced Registry

The 10 highest producers of butterfat and milk among Dutch Belted cows are listed below.

Ten highest Dutch Belted yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Loraine of Brunswick 3020	816.53	Loraine of Brunswick 3020	18,211
Marilyn 3232	793.17	Gem of Columbia 2038	17,268
Gloria 3231	780.09	Marilyn 3232	16,878
Green River Neritta 3d 3065	691.69	Gloria 3231	16,546
Eunice Ann 3423	681.37	Green River Neritta 3d 3065	16,074
Angelina 2641	668.07	Green River Neritta 2d 2958	16,055
Gem of Columbia 2038	633.86	Angelina 2641	16,023
Green River Neritta 2d 2958	582.18	Eunice Ann 3423	14,935
Glenbeulah's Beauty 2172	531.19	Elsie Blossom 2829	14,688
Florida Lee 2654	522.65	Green Hills Circe 3525	13,749

BULLS

The 10 Dutch Belted sires having the largest number of daughters with official records, up to January 1, 1931, are listed below.

Ten Dutch Belted sires having the largest number of Advanced Register daughters

Sire	Number of daughters	Sire	Number of daughters
Keith 934	9	Sutton's Gay Lad 494	4
Salvador 2d 1448	8	Wonder of Lakeview 1483	3
Samoset 1134	5	Salvador 1319	3
Michigan Prince 1258	5	Glenbeulah's Duke 1092	3
Defendant 1185	5	Bruce W. 729	3

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to America were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or Jersey

FIGURE 12.—Guernsey bull, Yeoman's King of the May 17053. He has 110 daughters in the Advanced Registry

FIGURE 13.—Guernsey bull, Fernbrook King Hendrick 122009. Grand Champion, National Dairy Show, 1930

cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

XUM

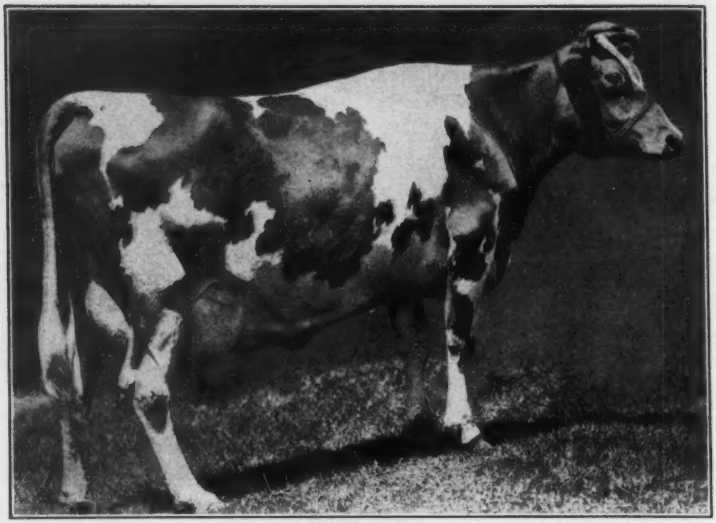

FIGURE 14.—Guernsey cow, Anesthesia Faith of Hill Stead 114354. Champion butterfat producer of the breed

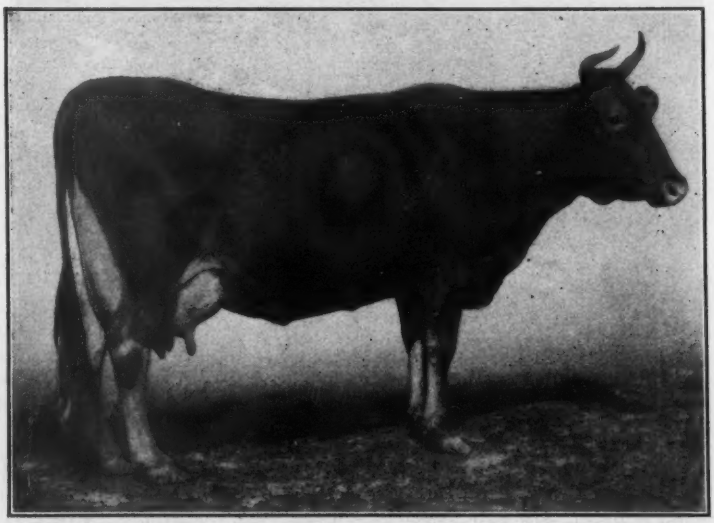

FIGURE 15.—Guernsey cow, Murne Cowan 19597. Champion milk producer of the breed

According to Tables 1 and 2, there were in 1920 about 80,000 registered Guernsey cattle in the United States and about 1,900,000 grades. It is estimated that on January 1, 1931, there were about 196,000 registered Guernseys in the United States.[4]

[4] See footnote 1, p. 6.

GENERAL CHARACTERISTICS

In size the Guernseys are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth and reach maturity early. When mature the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

Scale of points for Guernsey cow

Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing femininity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel, deep and long, with well-sprung ribs. Individual ribs, long, flat, wide apart, and free from excess tissue	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern, strong and springy	2
Hide, loose and pliable, and not thick, with oily feeling; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bone and hair; nicely balanced switch	2
Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins, long, tortuous, prominent, and branching, with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

XUM

PRODUCTION

Guernsey milk has a high per cent of butterfat and a yellow color.

Up to April 1, 1931, 33,231 official Guernsey records were completed. Of this number 27,222 were initial records and 6,009 were reentry records. The average of these 33,231 records is 9,976 pounds of milk and 493.8 pounds of butterfat, the average butterfat test being 4.95 per cent.

The 10 highest butterfat and milk producers among the Guernseys are listed below.

Ten highest Guernsey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Anesthesia Faith of Hill Stead 114354	1,112.50	Murne Cowan 19597	24,008
Countess Prue 43785	1,103.30	Topsy of Thousand Springs 137339	22,000
Murne Cowan 19597	1,098.20	Pet of La Grange 2d 48429	21,968
May Rilma 22761	1,073.40	Peterkin's Beauty of Fairview S. 112241	21,111
Gertrude Claire 99550	1,020.00	Katherine's Trixie 100396	21,071
Nella Jay 4th 38233	1,019.30	Gertrude Claire 99550	20,738
Langwater Nancy 27943	1,011.70	Nella Jay 4th 38233	20,710
Dairy Maid Queen of Spring Hill 74067	1,011.20	Molly's Lassie 86472	20,592
Proud Dora of Echo Glade 151373	1,007.10	St. Austell Daffodil 84890	20,491
Langwater Hope 27946	1,003.20	Miss Daisy of Maple Hill 72610	20,315

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to March 10, 1931, are listed below.

Ten Guernsey sires having the largest number of Advanced-Register daughters

Sire	Number of daughters	Sire	Number of daughters
Governor of the Chêne (R. G. A. S. 1297 P. S.)	114	Florham Laddie 20431	66
Yeoman's King of the May 17053	110	Langwater Foremost 39191, A. R.	65
Langwater Demonstrator 16451	77	Galaxy's Sequel 16904 (imported)	53
Masher's Sequel 11462 (imported)	70	Ne Plus Ultra 15265	48
Clara's Sequel 29414 (imported)	66	Beda's May King 11893	48

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in northern Holland, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of

America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian the single word "Holstein" is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

According to Tables 1 and 2 there were in 1920 about 528,000 registered Holsteins in the United States and about 10,500,000 grades. It is estimated that on January 1, 1931, there were about 755,000 registered Holsteins in the United States.[5] Holstein cattle are found throughout all the 48 States though by far the largest number are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These six States contain more than 60 per cent of the registered Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

Scale of points for Holstein-Friesian cow

Forehead, broad between the eyes; dishing	2
Face, of medium length; clean cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws, strong	3
Ears, of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	5
Chine, straight; strong; broadly developed, with open vertebræ	4
Loin and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2

[5] See footnote 1, p. 6.

Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 37,039 official records of Holstein cows and heifers that were completed up to January 1, 1931, show an average yearly production of 16,063 pounds of milk and 545.0 pounds of butterfat, the average test being 3.39 per cent.

The 10 highest butterfat and milk producers among the Holsteins are listed below.

Ten highest Holstein yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
De Kol Plus Segis Dixie 295135 [1]	1,349.31	Segis Pietertje Prospect 221846	37,381
Daisy Aaggie Ormsby 3d 571569	1,286.23	Helm Veeman Woodcrest 486877	36,218
May Walker Ollie Homestead 300043	1,218.59	Kolrain Marion Finderne 317396	35,340
Hollywood Lilith Palmyra Abbekerk 400491	1,206.79	Kolrain Finderne Bess 291570	35,085
Duchess Skylark Ormsby 124514	1,205.09	Kathleen Triumph 1032712	34,972
Carnation Walker Hazelwood 834565	1,198.85	Nooksack Lunde Oregon De Kol 301119	34,511
Bess Johanna Ormsby 263431	1,198.09	Queen Carlotta De Kol 311674	34,430
Redfield Segis Johanna 735950	1,182.93	Adirondac Wietske Dairy Maid 204072	34,402
Finderne Pride Johanna Rue 121083	1,176.47	Grahamholm Colantha Pauline Segis 405465	34,292
Queen Bessie Pietertje Ormsby 648084	1,172.75	Princess Aaggie Polkadot De Kol 372024	34,071

[1] Canadian cow.

BULLS

The 10 Holstein-Friesian sires having the largest number of daughters with yearly records, up to January 1, 1931, are listed below.

Ten Holstein sires with the largest number of yearly-record daughters

Sire	Number of daughters	Sire	Number of daughters
King of the Ormsbys 178078	108	Dutchland Colantha Sir Inka 50999	74
Matador Segis Walker 148839	97	Judge Segis 80912	74
Sir Inka Prilly Segis 80914	80	Sir Johanna Fayne 42147	73
King Segis Alcartra Prilly 192705	79	Colantha Sir Walker Korndyke 95460	70
King Pontiac Champion 53418	75	Sir Pietertje Ormsby Mercedes 44931	70

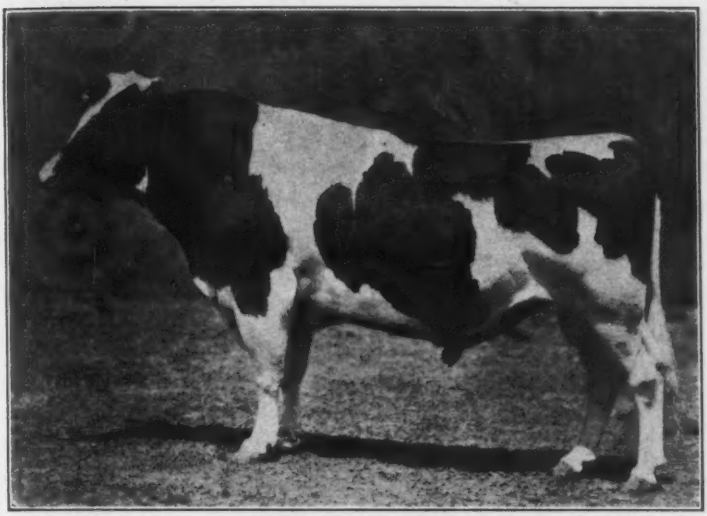

FIGURE 16.—Holstein bull, King of the Ormsbys 178078. He has 106 yearly-record daughters in the Advanced Register

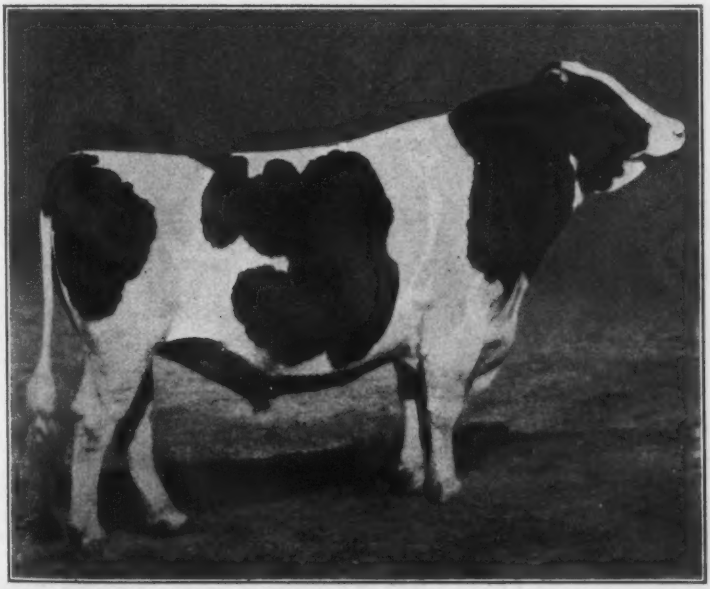

FIGURE 17.—Holstein bull, Sir Fobes Ormsby Hengerveld 412147. Grand champion, National Dairy Show, 1930

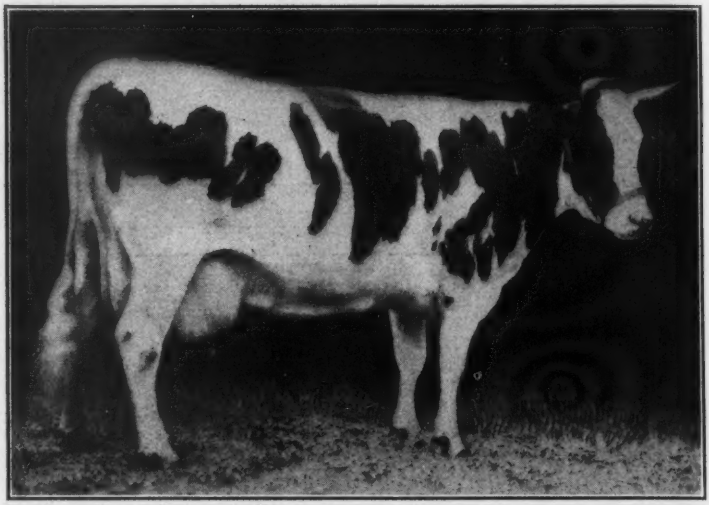

FIGURE 18.—Holstein cow, Segis Pietertje Prospect 221846. Has highest yearly milk record of all the breeds

FIGURE 19.—Daisy Aaggie Ormsby 3d 571569. Has highest yearly butterfat record of all the breeds in the United States

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

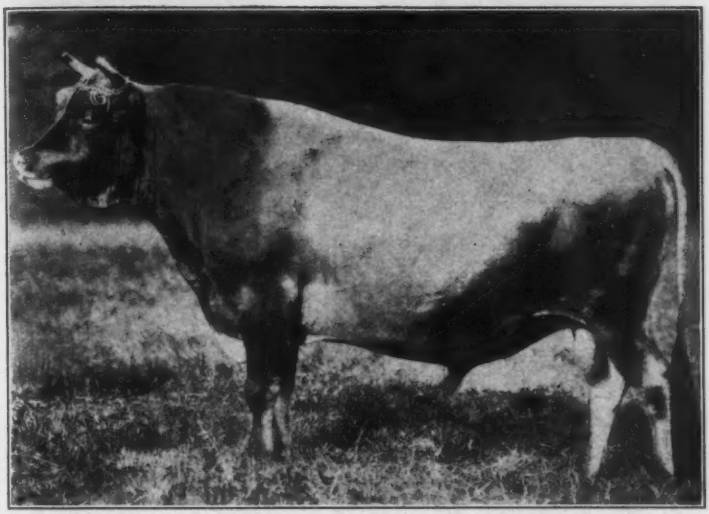

FIGURE 20.—Jersey bull, Dairylike Majesty 198188. He has 126 daughters in the Register of Merit

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. There were about 232,000 registered and about 9,300,000 grade Jerseys in this country in 1920, well scattered throughout all the 48 States. It is estimated that on January 1, 1931, there were about 371,000 registered Jerseys in the United States.[6]

GENERAL CHARACTERISTICS

The Jersey is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common and some individuals approach black. They may be solid color of

[6] See footnote 1, p. 6.

any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

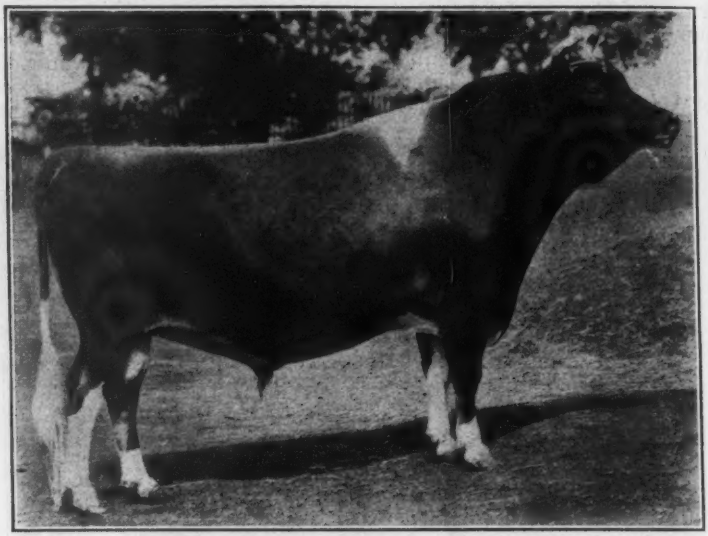

FIGURE 21.—Jersey bull, February Fern's Noble 308129. Grand champion, National Dairy Show, 1930

Scale of points for Jersey cow

DAIRY TEMPERAMENT AND CONSTITUTION

Head, 7:
- A. Medium size, lean; face dished; broad between eyes; horns medium size, incurving — 3
- B. Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong — 4

Neck, 4:
- Thin, rather long, with clean throat, neatly joined to head and shoulders — 4

Body, 37:
- A. Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs — 5
- B. Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development — 10
- C. Back straight and strong, with prominent spinal processes; loins broad and strong — 5
- D. Rump long to tail setting, and level from hip bones to rump bones — 6
- E. Hip bones high and wide apart — 3
- F. Thighs flat and wide apart, giving ample room for udder — 3
- G. Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking — 2
- H. Hide loose and mellow — 2
- I. Tail thin, long, with good switch, not coarse at setting on — 1

MAMMARY DEVELOPMENT

Udder, 26:
- A. Large size, flexible, and not fleshy — 6
- B. Broad, level or spherical, not deeply cut between teats — 4
- C. Fore udder full and well rounded, running well forward of front teats — 10
- D. Rear udder well rounded, and well out and up behind — 6

Teats, 8:
- Of good and uniform length and size, regularly and squarely placed — 8

Milk veins, 4:
- Large, long, tortuous and elastic, entering large and numerous orifices — 4

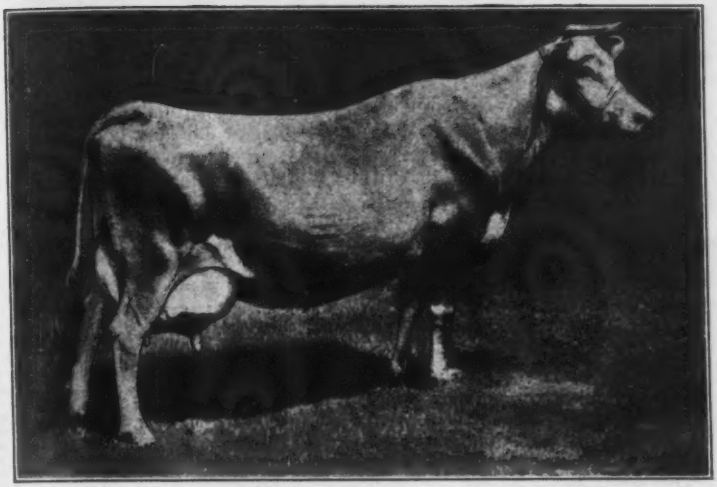

FIGURE 22.—Jersey cow, Abagail of Hillside 457241. Champion milk and butterfat producer of the breed

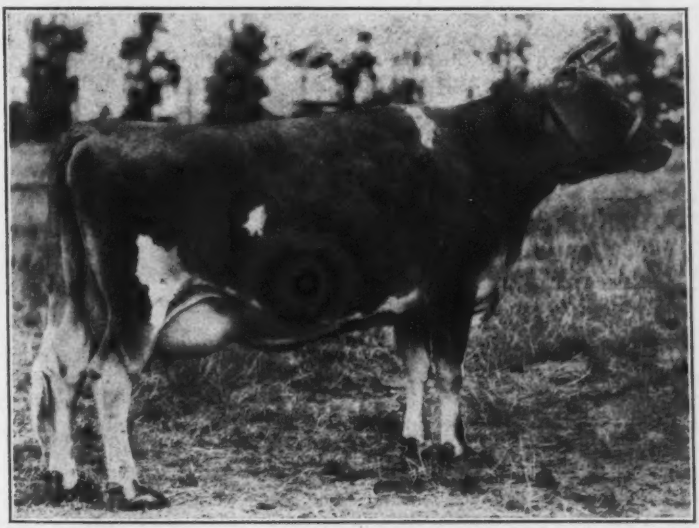

FIGURE 23.—Jersey cow, Blonde's Cunning Mouse 657030. Grand champion, National Dairy Show, 1930

SIZE AND GENERAL APPEARANCE

Size, 4:	
Mature cows, 800 to 1,000 pounds	4
General appearance, 10:	
A symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal, with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and rich in butterfat. To January 1, 1931, 43,983 Register-of-Merit yearly records had been completed by Jersey cows. The average of these records made by cows of all ages in both the 305 and 365 day divisions is 454.80 pounds of butterfat and 8,492 pounds of milk a year, with an average test of 5.36 per cent. Of this group, 26,068 were 365-day records that averaged 480.48 pounds of butterfat, and 8,960 pounds of milk. The 305-day records averaged 420.46 pounds of butterfat, and 7,886 pounds of milk.

The 10 highest butterfat and milk producers among the Jerseys are listed below:

Ten highest Jersey yearly butterfat and milk production records in the United States

Butterfat production		Milk production	
Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Abagail of Hillside 457241	1,197.51	Abagail of Hillside 457241	23,677
Darling's Jolly Lassie 435948	1,141.28	Madeline of Hillside 389336	20,624
Groff's Constance 367292	1,130.09	Fauvic's Star 313018	20,616
Prince's Emma of H. S. F. 359390	1,109.99	Fauvic Ruth 385463	19,805
California's Rinda's Insie 565559	1,073.41	Passport 219742	19,696
Imp. Cancalaise 696129	1,072.37	Red Lady 396118	19,608
Lad's Iota 350672	1,048.07	Sybil's Miss May 477787	19,239
Fauvic Ruth 385463	1,047.28	Lad's Likeness 338246	19,225
Imperial Isabel 447661	1,045.14	Eminent's Jimp's Owl 297471	19,099
Madeline of Hillside 389336	1,044.05	Raleigh's Torono's Meme 544207	19,070

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to March 31, 1931, are listed below:

Ten Jersey sires with largest number of daughters in Register of Merit

Sire	Number of daughters	Sire	Number of daughters
Dairylike Majesty 198138	126	Royal Majesty of St. Cloud 89541	80
Pogis 99th of Hood Farm 94502	121	Hood Farm Pogis 9th 55552	79
Sophie 19th's Tormentor 113302	101	Hood Farm Torono 60326	73
Sybil's Gamboge 174663	88	Spermfield Owl's Progress 163331	71
Imported Oxford You'll Do 111860	84	Imported Golden Fern's Noble 145762	66

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations and their addresses are as follows:

American Guernsey Cattle Club, Peterboro, N. H.
American Jersey Cattle Club, 324 West Twenty-third Street, New York City.
Ayrshire Breeders' Association of the United States of America, Brandon, Vt.
Brown Swiss Cattle Breeders' Association, Beloit, Wis.
Dutch Belted Cattle Association of America, Rockville, Conn.
Holstein-Friesian Association of America, Brattleboro, Vt.

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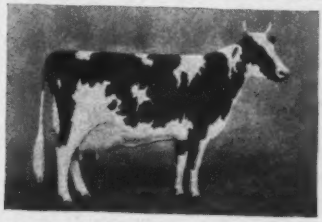
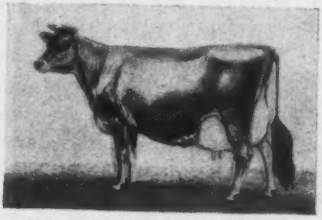
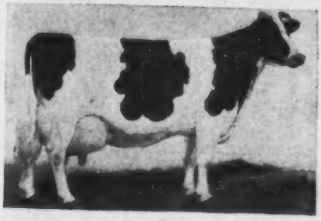
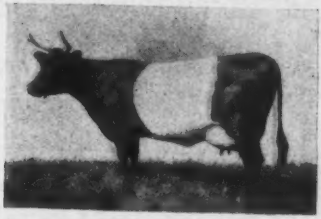
FARMERS' BULLETIN No. 1443

Rev.ed.
follows

DAIRY CATTLE BREEDS

SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmer's Bulletin 893, Breeds of Dairy Cattle.

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DAIRY CATTLE BREEDS

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CONTENTS

	Page		Page
Dairy cattle in the United States	2	Brown Swiss	11
What is a dairy breed?	3	Dutch Belted	15
Registration	4	Guernsey	18
Which breed to select	4	Holstein-Friesian	23
The score card	5	Jersey	27
Ayrshire	6	Breed associations	31

DAIRY CATTLE IN THE UNITED STATES

ACCORDING TO ESTIMATES made by the United States Department of Agriculture there were about 36,000,000 dairy cattle of all ages in the United States on January 1, 1933. Three and one third percent of these cattle, or about 1,200,000, are registered, and represent six breeds—namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. The improvement that must be made in the 96⅔ percent that are not registered must come largely from the 3⅓ percent that are registered. Likewise, any increase in the number of our registered dairy cows, and even the maintenance of our grade dairy herds at their present number and efficiency, will be accomplished principally through the use of registered bulls. For these reasons registered dairy cattle have played in the past and will play in the future a very important role in the dairy industry of the nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various breeds in the United States, by sections and by States. This information in table 1, showing the total number of each breed on January 1, 1920, was brought out by an inquiry sent to 14,000 special livestock reporters of the branch then known as the "Bureau of Markets and Crop Estimates" of the United States Department of Agriculture. Grades and scrubs were listed with the respective breeds to which they seemed to belong.

Table 2 shows the number of registered cattle of the dairy breeds on January 1, 1930, as ascertained by the census.

TABLE 1.—*Estimated number and percentage of cattle of dairy breeds, including purebreds and grades, in the United States, January 1, 1920, by sections*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Ayrshire	412,000	1.8	5.8	0.8	1.9	0.7	.....	0.8
Brown Swiss	170,000	.7	.5	1.3	1.3	.3	.....	.4
Dutch Belted	157,000	.7	.5	.2	.6	.3	2.3	.....
Guernsey	1,993,000	8.5	10.6	12.1	11.9	8.4	1.3	5.1
Holstein-Friesian	11,009,000	47.4	65.3	56.2	54.3	21.1	17.3	58.9
Jersey	9,554,000	40.9	17.3	29.4	30.0	69.2	79.1	34.8
Total	23,355,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1930, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	1,280,161	48,236	25,734	200,721	649,739	354,939	792
Geographic divisions:							
New England	87,889	12,256	467	19,397	32,567	23,089	113
Middle Atlantic	281,054	20,584	2,177	46,916	180,095	31,220	62
East North Central	401,332	5,295	13,947	66,368	233,768	81,804	150
West North Central	211,884	5,106	7,984	30,046	123,610	44,869	269
South Atlantic	72,467	1,536	206	20,577	21,200	28,885	63
East South Central	57,704	166	22	1,441	4,446	51,628	1
West South Central	66,877	316	102	1,755	7,171	57,458	75
Mountain	36,489	1,007	229	4,030	21,878	9,328	17
Pacific	64,465	1,970	600	10,191	25,004	26,658	42
New England:							
Maine	16,021	1,096	89	4,003	4,613	6,134	86
New Hampshire	11,179	2,115	55	2,555	5,153	1,301	
Vermont	25,716	4,065	145	3,468	7,986	10,045	7
Massachusetts	19,552	2,753	105	5,491	8,187	3,013	3
Rhode Island	3,182	429	13	796	1,555	388	1
Connecticut	12,239	1,798	60	3,084	5,073	2,208	16
Middle Atlantic:							
New York	155,626	14,881	1,230	19,390	106,311	13,799	15
New Jersey	17,075	316	164	3,925	10,232	2,397	41
Pennsylvania	108,353	5,387	783	23,601	63,552	15,024	6
East North Central:							
Ohio	82,102	1,441	940	12,440	35,027	32,253	1
Indiana	35,751	535	553	6,429	12,103	16,094	37
Illinois	59,615	625	4,474	5,241	29,060	10,179	36
Michigan	71,750	777	1,547	11,736	41,786	15,844	60
Wisconsin	152,114	1,917	6,433	30,522	105,792	7,434	16
West North Central:							
Minnesota	78,650	1,066	3,176	15,147	54,072	5,141	48
Iowa	43,702	733	3,414	6,569	26,211	6,711	64
Missouri	31,548	160	144	2,289	7,875	21,030	50
North Dakota	9,354	118	339	1,454	6,950	493	
South Dakota	9,141	312	488	1,203	6,516	595	27
Nebraska	11,933	420	146	1,240	7,865	2,250	12
Kansas	27,556	2,297	277	2,144	14,121	8,649	68
South Atlantic:							
Delaware	2,896	86		877	1,545	388	
Maryland	19,294	661	57	6,093	9,553	2,885	45
District of Columbia	234			1	231	2	
Virginia	14,150	82	35	5,288	5,756	2,989	
West Virginia	6,863	293	107	1,112	1,668	3,682	1
North Carolina	11,788	362	1	3,393	978	7,054	
South Carolina	5,969			2,430	763	2,776	
Georgia	8,432	2	3	947	388	7,092	
Florida	2,841	50	3	436	318	2,017	17
East South Central:							
Kentucky	16,903	32	20	616	2,953	13,281	1
Tennessee	18,869	34	2	210	894	17,729	
Alabama	6,764	23		212	143	6,386	
Mississippi	15,168	77		403	456	14,232	
West South Central:							
Arkansas	6,532	5	5	264	514	5,737	7
Louisiana	4,234	1		123	431	3,679	
Oklahoma	16,130	233	92	867	3,770	11,167	1
Texas	39,981	77	5	501	2,456	36,875	67
Mountain:							
Montana	4,551	111	125	653	3,167	495	
Idaho	9,557	194	27	1,577	4,842	2,917	
Wyoming	1,596	1	11	194	1,127	262	1
Colorado	8,155	403	42	764	5,669	1,277	
New Mexico	1,322	13		54	463	777	15
Arizona	3,427	166	15	276	1,956	1,014	
Utah	6,848	35		485	3,901	2,427	
Nevada	1,033	84	9	27	753	159	1
Pacific:							
Washington	19,597	691	140	3,960	8,125	6,681	
Oregon	21,755	328	261	3,190	3,577	14,360	39
California	23,113	951	199	3,041	13,302	5,617	3

[1] Including animals reported as registered, but with breed not specified.

Table 3 gives the average annual production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that have official yearly records to Jan. 1, 1933*

Breed	Cows and heifers	Milk	Butterfat	
			Quantity	Test
	Number	*Pounds*	*Pounds*	*Percent*
Ayrshire	8,663	10,404	416.0	4.00
Brown Swiss	654	13,523	540.6	4.00
Dutch Belted	99	10,570	417.0	3.94
Guernsey	37,915	10,026	497.3	4.96
Holstein	43,751	16,026	544.5	3.40
Jersey	49,465	8,520	456.3	5.36

Table 4 shows a comparison of breed with size of herd. This table is based on an inventory taken February 1, 1932, of the herds of 21,554 crop correspondents scattered throughout the United States. The relative number of milk cows of each breed—grades and registered combined—is expressed as a percentage of all the milk cows reported for each of the different-sized herds.

TABLE 4.—*Breed of milk cow in herds of various sizes* [1]

Milk cows per farm	Holstein	Jersey	Guernsey	Ayrshire and Brown Swiss	Shorthorn and Red Polled	Hereford, Aberdeen, Angus, and others	Mixed breeding
Number	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
1	11.5	52.8	10.5	1.3	6.8	2.3	14.8
2 or 3	12.3	45.1	9.2	.9	11.7	3.8	17.0
4 or 5	15.6	36.5	9.7	1.0	16.5	4.7	16.0
6 to 10	23.3	25.4	10.0	1.4	21.8	4.9	13.2
11 to 20	36.0	18.4	12.5	2.0	18.7	4.1	8.3
21 to 30	46.1	19.7	13.1	2.1	10.8	3.8	4.4
31 to 50	48.9	22.5	12.9	3.0	5.4	2.0	5.4

[1] Prepared by J. B. Shepard, Division of Crop and Livestock Estimates, Bureau of Agricultural Economics.

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of purebred dairy cattle to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a purebred dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A purebred dairy animal is one that meets the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, and through progressive improvement such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.)

may refer to either purebreds or grades; but to prevent misunderstanding it is desirable to precede the breed name with the word "purebred" or "grade."

In addition to the breeds of dairy cattle mentioned, certain other breeds having good milking qualities are kept for dairy purposes. Such cattle, which are often referred to as dual-purpose animals because of their ability to produce satisfactory carcasses as well as a good milk flow, include the Shorthorn, Red Polled, and Devon. The qualities of these are discussed in Farmers' Bulletin 612, Breeds of Beef Cattle.

REGISTRATION

A purebred dairy animal is one whose sire and dam are eligible to be recorded by name and number in a register of the breed, commonly called the herdbook. An animal thus qualified may itself be recorded in the same herd register, provided the sire and dam are registered, and provided it also qualifies with regard to color. Additional rules and requirements for registration are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the associations concerned, as listed on page 31.

In addition to the herd register there is for each breed another register in which are entered the names of purebred cows that have completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The requirements for admission to this special register of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question of which breed to choose and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are: (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with purebreds may feel that since all his neighbors have one breed of cattle, he should get another breed so as to have a monopoly in the business of selling breeding stock. There is no question about the monopoly, but there would probably be little business to monopolize. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed, buyers are attracted to the locality because of the better chance to get the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good purebred bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with purebreds. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

In a district where no breed is established, or in sections where several breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well-liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder cannot shift from one breed to another to meet the fluctuations in market demands.

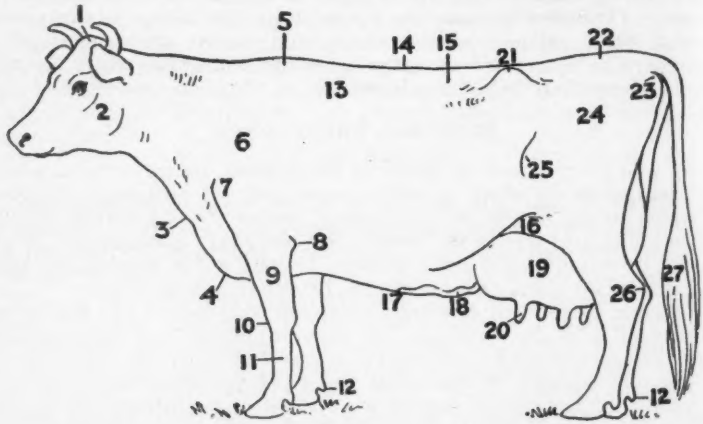
When selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds and, other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful a diagram is given in figure 1 which names and locates the various parts referred to on the score cards.



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIGURE 1.—Diagram of cow showing names and location of parts.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations of Ayrshires into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. Table 1 shows that, in 1920, there

were in the United States 412,000 animals carrying more or less Ayrshire blood. According to table 2, there were, in 1930, 48,236 registered Ayrshires in the United States. By January 1, 1933, it is estimated that the number of registered Ayrshires had increased to 50,964.[1] Ayrshires are scattered through practically all the States, though by far the largest numbers are in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The

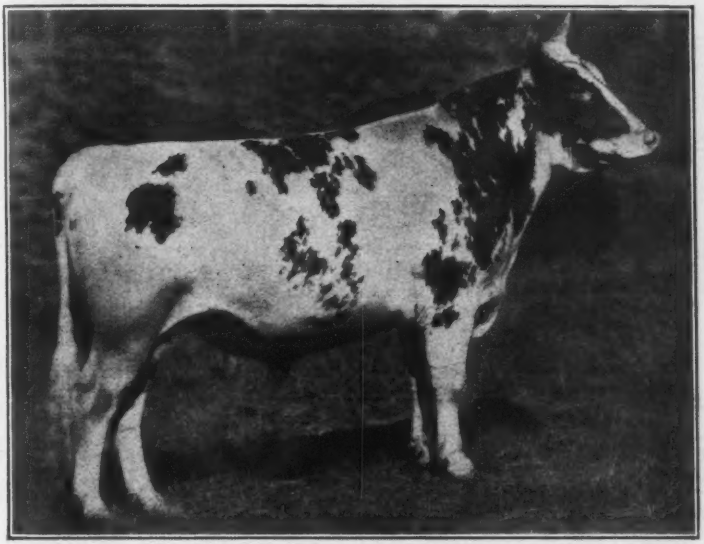


FIGURE 2.—Ayrshire bull, Willoxton Satisfaction 42680. Grand champion, National Dairy Show, 1930.

calves weigh from 60 to 80 pounds at birth. The weight of mature bulls (figs. 2 and 3) varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even; the teats medium in size and well-placed (figs. 4 and 5).

[1] This figure has been calculated from yearly registrations, the allowances for deaths being estimated and 1930 census figures used as a check.

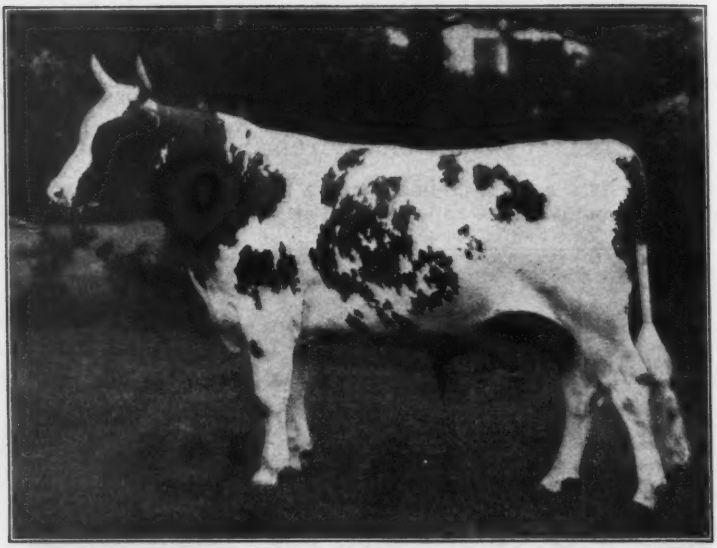


FIGURE 3.—Ayrshire bull, Penshurst Man O'War 25200. One hundred and thirty-two of his daughters are in the Advanced Registry.

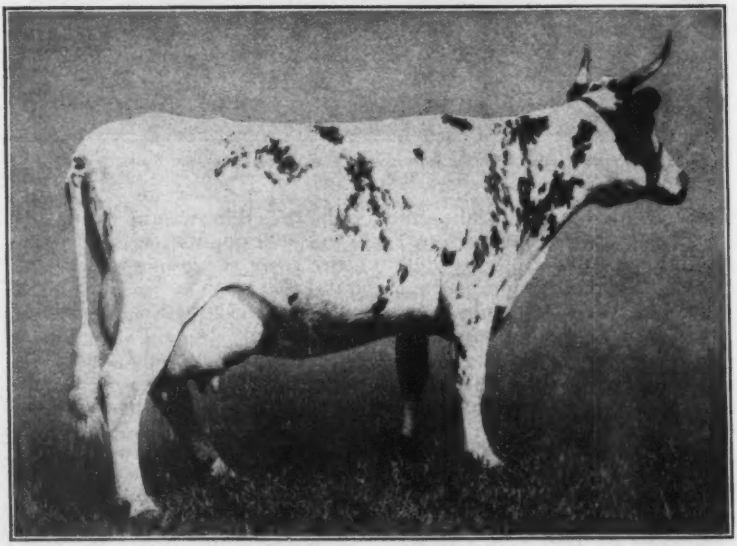


FIGURE 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed.

SCALE OF POINTS FOR AYRSHIRE COW OR HEIFER

ANATOMY		*Perfect score*
Head		9
Forehead, reasonably broad between the eyes and slightly dished	1	
Face, of medium length, clean cut, feminine; the bridge of the nose straight to nostrils	1	
Muzzle, broad and strong, with large open nostrils	2	
Jaws, wide at the base, well muscled, and strong	1½	
Eyes, moderately large, placid, full, and bright	1½	
Ears, medium size, fine, and carried alertly	½	
Horns, small at base, not coarse nor too long; inclining upwards	1½	
Neck, medium length, smoothly blending with shoulders and throat, showing feminine refinement		2

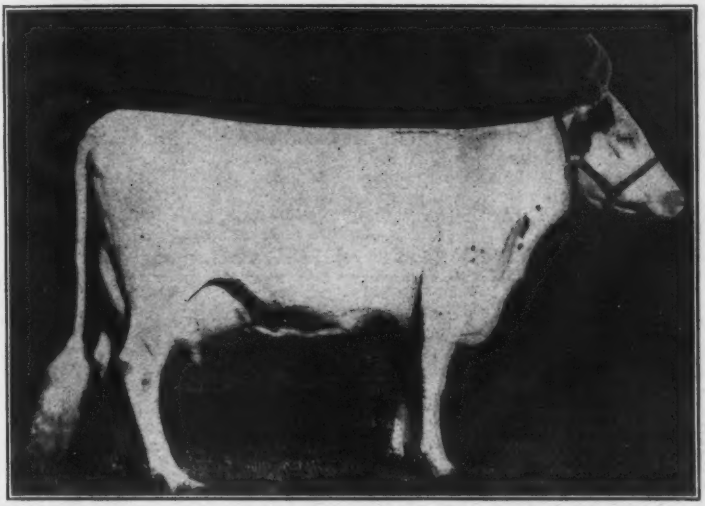


FIGURE 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed.

Shoulders, long, sloping and tapering from the base to the top of the shoulder blades; neatly and firmly attached to the body wall; tops of the blades not extending to the top of chine		5
Chest, full, and wide between and back of forearms; brisket light and refined		5
Chine, straight, strong, open jointed, narrow at the top, nicely blending into shoulders and a well-sprung rib		3
Crops, full, level with shoulders		4
Barrel, medium length, deep, but strongly held up; rib, well sprung; bones long, flat, and wide apart		10
Loin, broad, strong, and level with hips		4
Rump or pelvic area, wide, long, and roomy; top line extending level from loin to and including tail head		12
Hips, wide, with points rather sharply defined and level with back line		
Pin bones, wide apart and nearly level with hip bones; well-defined, not overlaid with fat		
Thurls, broad and set slightly below line from hip points to pin bones		
Tail head, level with back line, neatly molded, and showing no evidence of roughness		

		Perfect score
Tail, long and fine, with full switch		1
Flank, deep, slightly arched, and refined		1
Thighs, deep, straight and trim when viewed from the side. Flat and broad on sides. Twist or inside of thighs well cut out for udder development, with escutcheon well defined and carried high		2
Legs and feet, widely and squarely set under body; clean flat bone, front legs straight; hind legs nearly straight when viewed from rear; hocks and pasterns neatly and firmly molded; feet round, with plenty of depth at heels		8
Hide and hair, mellow, elastic hide of medium thickness; hair fine and soft		4
Mammary system		30
Size and shape of udder, broad, level, capacious, extending well forward and high behind; quarters even and of uniform size; floor of udder should be reasonably level and not deeply cut up between the quarters	10	
Attachment of udder, attached well forward with a neat and firm junction at body wall; carried wide and high behind, no evidence of breaking of tissues supporting front quarters nor of dropping of floor of udder	6	
Texture of udder, fine, soft, and pliable, with light skin	4	
Size, shape, and placement of teats, convenient size, symmetrical and nearly uniform, each hanging perpendicularly under the quarter; funnel-shaped teats objectionable	5	
Veining and milk wells, mammary veins large, long, tortuous, branching, and entering large or numerous milk wells; small veins clearly defined on udder	5	
Perfect anatomy score		100

BREED CHARACTERISTICS

In addition to the foregoing anatomy score of 100 points, which is applicable to all dairy cows, it has been deemed expedient to consider the following factors covering desirable Ayrshire breed characteristics.

To use this supplementary schedule, score the number of points in which the animal is deficient in each of the following breed characteristics, and deduct from the foregoing anatomy score the total number of points in which the animal is deficient.

	Deduct up to—
Style and quality, alert but docile; having an impressive carriage; graceful walk; and, above all, displaying evidence of feminine refinement and outstanding dairy character	7
Symmetry and balance, a symmetrical balancing of all the parts and the proper proportioning of the various parts to each other	7
Size and weight, mature cows should weigh from 1,100 to 1,400 pounds, depending on period of lactation	4
Color, red of any shade, mahogany, brown, or these with white, or white, each color clearly defined. Distinctive red and white markings preferable; black or brindle markings strongly objectionable	2
Total deductions possible	20
Net score	

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average of all the dairy breeds. The 8,663 cows and heifers that completed official records up to January 1, 1933, produced on an average 10,404 pounds of milk per cow, containing 416 pounds of butterfat, or 4 percent butterfat. The 10 highest milk and butterfat producers among the Ayrshires are listed in table 5.

TABLE 5.—*The 10 highest Ayrshire yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.6	Garclaugh May Mischief 27944	25,329
Vi's Bountiful Lassie 58096	923.2	Vi's Bountiful Lassie 58096	24,556
Auchenbrain Brown Kate 4th 27943	917.6	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.9	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.3	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.1	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.2	Nancy Whitehall 47810	22,074
Jean Armour 3d 32219	859.6	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.8	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.4	Willowmoor May Mischief 2d A 34173	21,161

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1933, are listed in table 6.

TABLE 6.—*The 10 Ayrshire sires having the largest number of Advanced-Registry daughters*

Sire	Number of daughters	Sire	Number of daughters
Penshurst Man O'War 25200	132	Penshurst Sir Robert 20029	55
Penshurst Rising Star 20922	81	Metropolitan Maid's Traveller 25943	54
Leto 14560	70	Baron's Best of Bargenoch 12858 (imported)	53
Kate's Champion of Penshurst 18782	61	Netherton Statesman 16431 (imported)	54
Beuchan Peter Pan 12971 (imported)	58		
Finlayston 8882 (imported)	56		

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where the breed has been developed during many centuries. It is probably one of the oldest in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. A number of importations have been made since, but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of foot-and-mouth disease in Europe. Table 1 shows that, in 1920, there were in the United States 170,000 animals carrying more or less Brown Swiss blood. According to table 2, there were, in 1930, 25,734 registered Brown Swiss animals in the United States. By January 1, 1933, it is estimated that the number of registered Brown Swiss had increased to 30,063.[2] Brown Swiss are scattered in 37 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio. Of late years the breed has made a notable increase in popularity.

[2] See footnote 1, p. 7.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh (figs. 6, 7, 8, and 9). The calves weigh from 65 to 90 pounds at birth. The heifers are slow in maturing. When full-grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually of a lighter shade than that on the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

SCALE OF POINTS FOR BROWN SWISS COW OR HEIFER		*Perfect score*
Head		10
Size and form, medium and rather long	2	
Face, dished, narrow between horns, and wide between eyes	2	
Ears, fringed inside with light-colored hair, medium size, and carried alert	1	
Muzzle, large and square, with mouth surrounded by mealy colored band; nose and tongue black	2	
Eyes, full and bright	2	
Horns, short, not too heavy, regularly set with black tips	1	
Neck, of good length, throat clean, neatly joined to head and shoulders, moderately thin at the withers		5
Fore quarters		9
Shoulders, not too heavy and smoothly blending into body	4	
Chest, deep and full between and back of forelegs	4	
Brisket, medium	1	
Body		13
Back, level to setting of tail and broad across the loin	6	
Ribs, long and broad, wide apart, and well sprung	3	
Barrel, long, deep, and well rounded	4	
Hind quarters		10
Hips, wide; pin bones high and wide apart; rump long and level from hip bones to tail setting	6	
Thighs, flat and wide apart, giving ample room for udder	2	
Tail, slender, well set on, with good switch	2	
Legs, of medium length and straightness, with good hoofs		2
Hide		5
Medium thickness, mellow and elastic	3	
Color, shades from dark to light brown; at some seasons of the year gray; white splashes on underline of belly are objectionable but do not disqualify; dark smoky skin objectionable; hair between horns usually of lighter shade than that on body	2	
Udder		32
Size, long, wide, deep, but not pendulous or fleshy	6	
Attachment, firmly attached to the body	4	
Veins, udder veins well-developed and plainly visible	2	
Balance, extending well up behind and far forward, quarters even	5	
Sole, nearly level and not indented between teats	2	
Teats, of good uniform length and size, regularly and squarely placed	6	
Texture, mellow, free from meatiness	7	
Mammary veins, large, long, tortuous, elastic, and entering good wells		6
Disposition, quiet but alert		2
General appearance		6
Total		100

FIGURE 6.—Brown Swiss bull, Reuben 2927. Twenty-five of his daughters are in the Register of Production

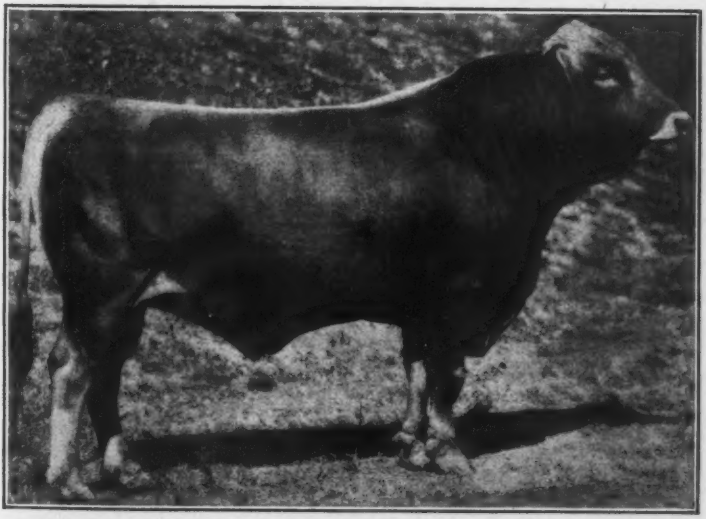


FIGURE 7.—Brown Swiss bull, March Molly 3d's Master 14350. Grand Champion, National Dairy Show, 1930.

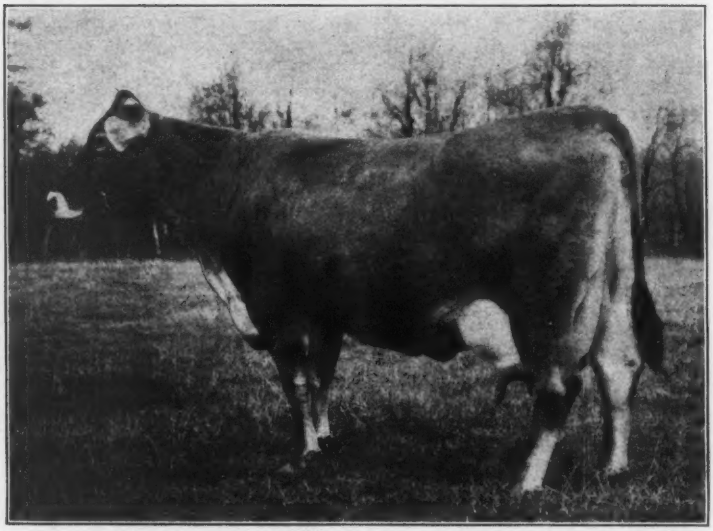


FIGURE 8.—Brown Swiss cow, Swiss Valley Girl 10th 7887. Champion milk and butterfat producer of the breed.

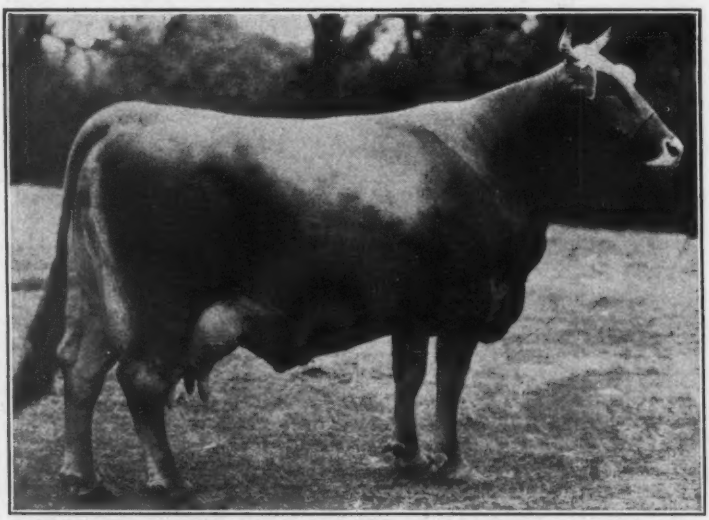


FIGURE 9.—Brown Swiss cow, King's Pebblebrook Phylis Torbel 20002. Grand champion, National Dairy Show, 1930.

PRODUCTION

The Brown Swiss produces milk of average quality compared with the other breeds of dairy cattle. The 654 cows and heifers that completed yearly records and were admitted to the Register of Production up to January 1, 1933, have an average yearly production of 13,523 pounds of milk and 540.6 pounds of butterfat per cow, with an average butterfat test of 4 percent. The 10 highest butterfat and milk producers among the Brown Swiss are listed in table 7.

TABLE 7.—*The 10 highest Brown Swiss yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Swiss Valley Girl 10th 7887	1,106.3	Swiss Valley Girl 10th 7887	27,514
June's College Girl 11427	1,062.3	Believe 4245	25,848
Greenwood Valley Lass 18823	1,037.1	Alice Lee 2nd 8777	24,845
Swiss Girl F. C. 13853	1,003.8	June's College Girl 11427	24,572
Believe 4245	1,002.6	Clepe E. 14082	24,226
Forest Girl of Lake View 11998	971.3	Miss Mary W. of Vandalia 5th 21277	24,018
Clepe E. 14082	969.3	Forest Girl of Lake View 11998	23,556
Millicent of Walhalla 11178	961.6	Swiss Girl F. C. 13853	23,236
Cinderella Cream 13625	957.6	Cinderella Cream 13625	23,186
Hawthorne Dairy Maid 6753	927.2	Olympe of Walhalla 10309	23,023

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to January 1, 1933, are listed in table 8.

TABLE 8.—*The 10 Brown Swiss sires having the largest number of daughters in Register of Production*

Sire	Number of daughters	Sire	Number of daughters
Reuben 2927	25	College Master 2986	12
Sunny Hill Bob 6170	15	Prince of Meadow Green 9427	12
Vogel's College Boy 5638	15	Swiss Valley Reuben 6074	12
Nellie's Stasis 6721	14	Beauty C.'s Master 6318	11
Ilda's College Boy 6663	13	Tom Phylis	10

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in Holland about two centuries ago. The breed gets its name from both the original home and from the distinctive color marking. It has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

4747°—33——3

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in the United States. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. It is estimated by the Dutch Belted Association of America that on January 1, 1929, there were 1,800 registered animals of this breed in the United States.

GENERAL CHARACTERISTICS

Dutch Belted cattle (figs. 10 and 11) have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof, and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

SCALE OF POINTS FOR DUTCH BELTED COW	*Perfect score*
Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full, and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders, fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel, large and deep, with well-developed abdomen; ribs well rounded and free from fat	10
Hips, broad, and chine level, with full loin	10
Rump, high, long, and broad	6
Hind quarters, long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs, short, clean, standing well apart	3
Udder, large, well developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair, fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

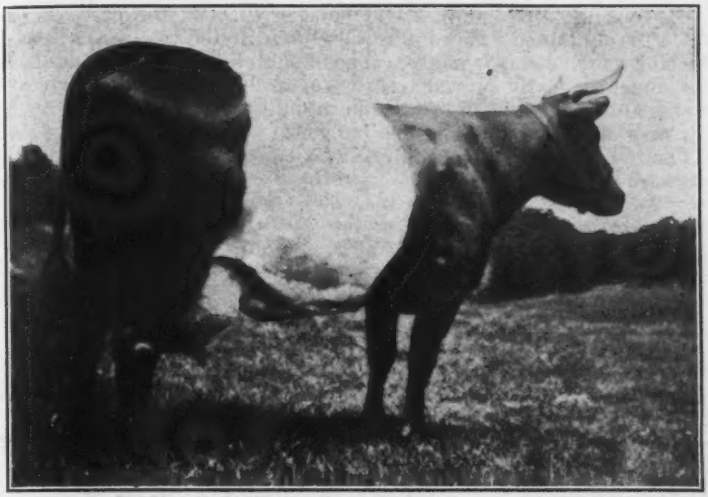


FIGURE 10.—Dutch Belted cow, Loraine of Brunswick 3020. Leading butterfat and milk producer of the breed.

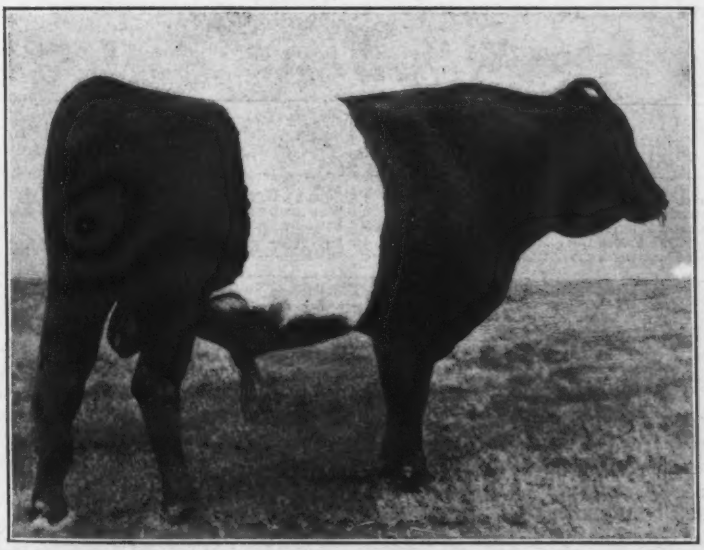


FIGURE 11.—Dutch Belted bull, Keith 934. Nine of his daughters are in the Advanced Register.

PRODUCTION

By referring to table 3 it will be seen that, in the percentage of butterfat contained in her milk, the Dutch Belted cow ranks between the Holstein and the Ayrshire. The 99 Dutch Belted cows and heifers that finished yearly official records up to January 1, 1933, show an average production of 10,570 pounds of milk and 417 pounds of butterfat, with an average test of 3.94 percent.

The 10 highest producers of butterfat and milk among Dutch Belted cows are listed in table 9.

TABLE 9.—*The 10 highest Dutch Belted yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Loraine of Brunswick 3020	816.5	Loraine of Brunswick 3020	18,211
Marilyn 3232	793.2	Gem of Columbia 2038	17,268
Gloria 3231	780.1	Marilyn 3232	16,878
Sally Ann 3838	736.9	Gloria 3231	16,546
Green River Neritta 3d 3065	691.7	Sally Ann 3838	16,328
Eunice Ann 3423	681.4	Green River Neritta 3d 3065	16,074
Angelina 2641	668.1	Green River Neritta 2d 2958	16,055
Gem of Columbia 2038	633.9	Angelina 2641	16,023
Green River Neritta 2d 2958	582.2	Eunice Ann 3423	14,935
Glenbeulah's Beauty 2172	531.2	Elsie Blossom 2829	14,688

BULLS

The 10 Dutch Belted sires having the largest number of daughters with official records, up to January 1, 1933, are listed in table 10.

TABLE 10.—*The 10 Dutch Belted sires having the largest number of Advanced-Registry daughters*

Sire	Number of daughters	Sire	Number of daughters
Keith 934	9	Sutton's Gay Lad 494	4
Salvador 2d 1448	8	Wonder of Lakeview 1483	3
Samoset 1134	5	Salvador 1319	3
Michigan Prince 1258	5	Glenbeulah's Duke 1092	3
Defendant 1185	5	Bruce W. 729	3

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and

Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to the United States were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

GENERAL CHARACTERISTICS

In size the Guernseys (figs. 12, 13, 14, and 15) are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth and reach maturity early. When mature, the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

SCALE OF POINTS FOR GUERNSEY COW	*Perfect score*
Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing feminity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel, deep and long, with well-sprung ribs. Individual ribs, long, flat, wide apart, and free from excess tissue	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern, strong and springy	2
Hide, loose and pliable, and not thick, with oily feeling; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bones and hair; nicely balanced switch	2

FIGURE 12.—Guernsey bull, Yeoman's King of the May 17063. One hundred and eleven of his daughters are in the Advanced Register.

FIGURE 13.—Guernsey bull, Langwater Waldorf 128541. Grand Champion, National Dairy Show, 1931.

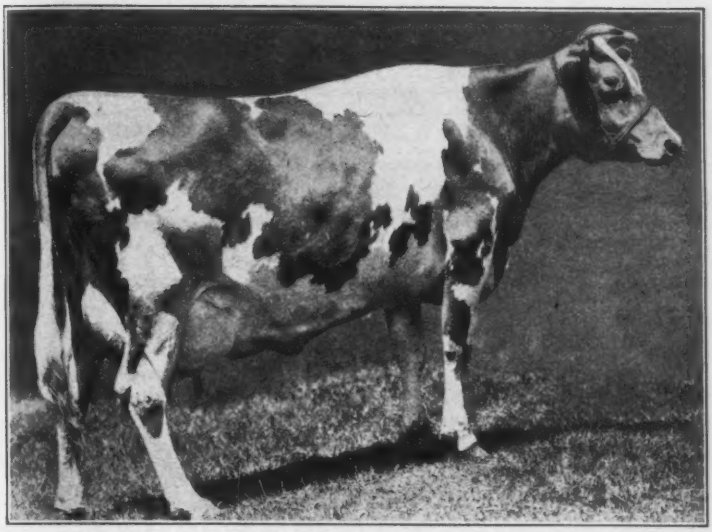


FIGURE 14.—Guernsey cow, Anesthesia Faith of Hill Stead 114354. Champion butterfat producer of the breed.

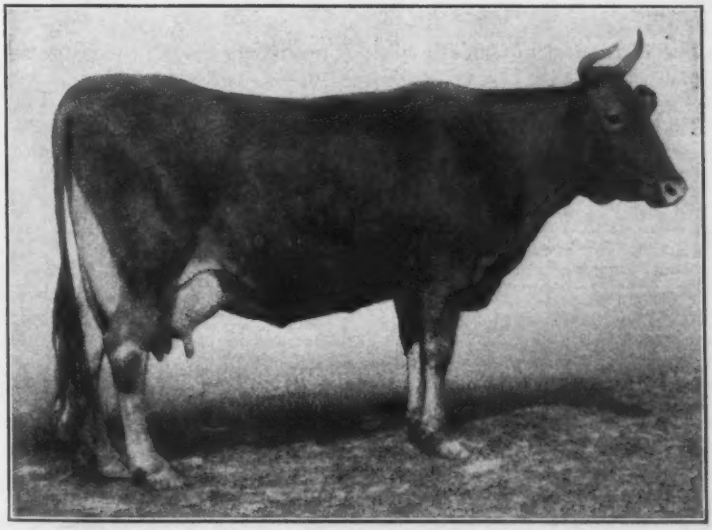


FIGURE 15.—Guernsey cow, Murne Cowan 19567. Champion milk producer of the breed.

	Perfect score
Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even, convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins, long, tortuous, prominent, and branching, with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin, which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

Table 1 shows that, in 1920, there were in the United States 1,993,000 animals carrying more or less Guernsey blood. According to table 2, there were, in 1930, 200,721 registered Guernseys in the United States. By January 1, 1933, it is estimated that the number of registered Guernseys had increased to 213,734.[3]

PRODUCTION

Guernsey milk has a high percentage of butterfat and a yellow color.

Up to January 1, 1933, 37,915 official Guernsey records were completed.

Of this number, 30,987 were initial records and 6,928 were reentry records. The average of these 37,915 records is 10,026 pounds of milk and 497.3 pounds of butterfat, the average butterfat test being 4.96 percent.

The 10 highest butterfat and milk producers among the Guernseys are shown in table 11.

TABLE 11.—*The 10 highest Guernsey yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Anesthesia Faith of Hill Stead 114354	1,112.5	Murne Cowan 19597	24,008
Countess Prue 43785	1,103.3	Grassland Zenoria 185315	22,848
Murne Cowan 19597	1,098.2	Topsy of Thousand Springs 137339	22,000
May Rilma 22761	1,073.4	Pet of LaGrange 2d 48429	21,968
Baudy's Daisy of Buena Vista 212457	1,063.4	Peterkin's Beauty of Fairview S. 113341	21,111
Marigold of Elgercon 137240	1,028.3	Katherine's Trixie 100396	21,071
Wolfpen Lilac 221332	1,028.3	Baudy's Daisy of Buena Vista 212457	21,056
Gertrude Claire 99550	1,020.0	Gayhead's Honeysuckle 182706	20,754
Nella Jay 4th 38233	1,019.3	Gertrude Claire 99550	20,738
Langwater Nancy 27943	1,011.7	Nella Jay 4th 38233	20,710

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to January 1, 1933, are listed in table 12.

[3] See footnote 1, p. 7.

TABLE 12.—*The 10 Guernsey sires having the largest number of Advanced-Register daughters*

Sire	Number of daughters	Sire	Number of daughters
Governor of the Chene (R.G.A.S. 1297 P.S.)	114	Langwater Foremost 39191, A.R	67
Yeoman's King of the May 17063	111	Clara's Sequel 29414 (imported)	66
Langwater Demonstrator 16451	77	Galaxy's Sequel 16904 (imported)	53
Florham Laddie 20431	71	Ne Plus Ultra 15265	48
Masher's Sequel 11462 (imported)	70	Beda's May King 11893	48

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in northern Holland, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian the single word "Holstein" is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

Table 1 shows that, in 1920, there were in the United States 11,069,000 animals carrying more or less Holstein blood. According to table 2, there were, in 1930, 649,739 registered Holsteins in the United States. It is estimated that on January 1, 1933, the number of registered Holsteins was 578,148.[4] Holstein cattle are found throughout all the 48 States, though by far the largest number are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These six States contain more than 60 percent of the registered Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins (figs. 16, 17, 18, and 19) are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the

[4] See footnote 1, p. 7.

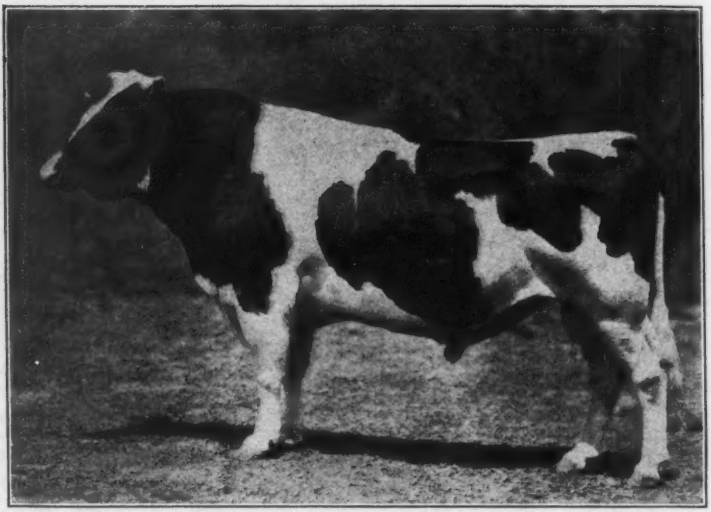


FIGURE 16.—Holstein bull, King of the Ormsbys 178078. One hundred and eight of his daughters are in the Advanced Register.

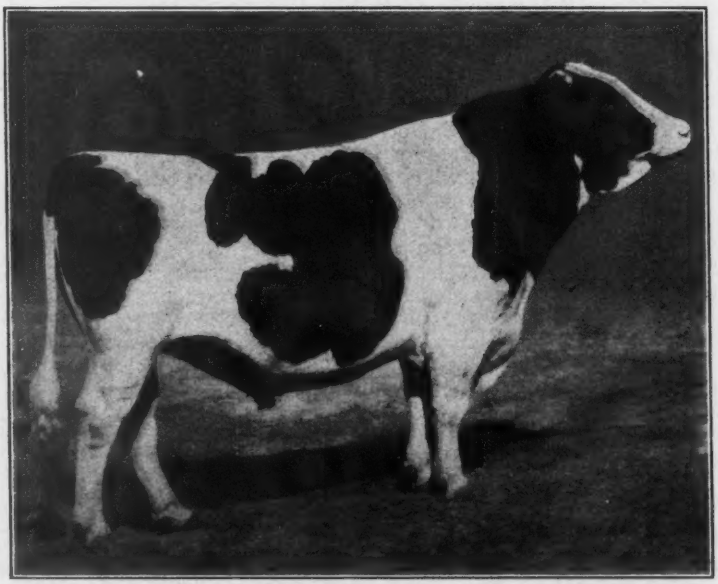


FIGURE 17.—Holstein bull, Sir Forbes Ormsby Hengerveld 412147. Grand champion, National Dairy Show, 1930.

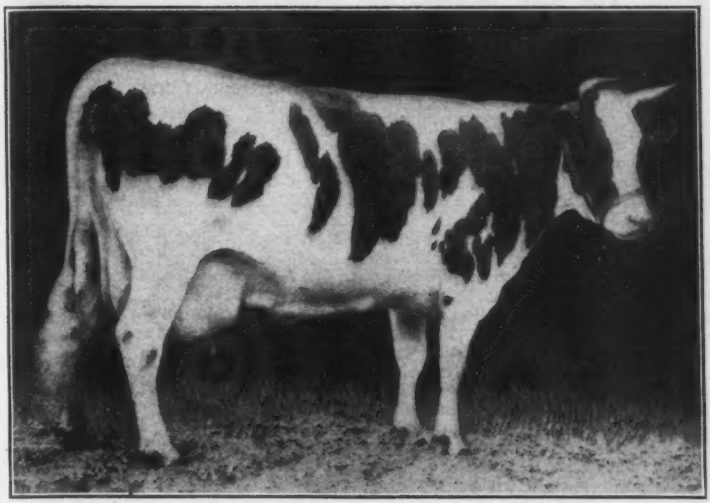


FIGURE 18.—Holstein cow, Segis Pietertje Prospect 221846. This cow has the highest yearly milk record of all the breeds.

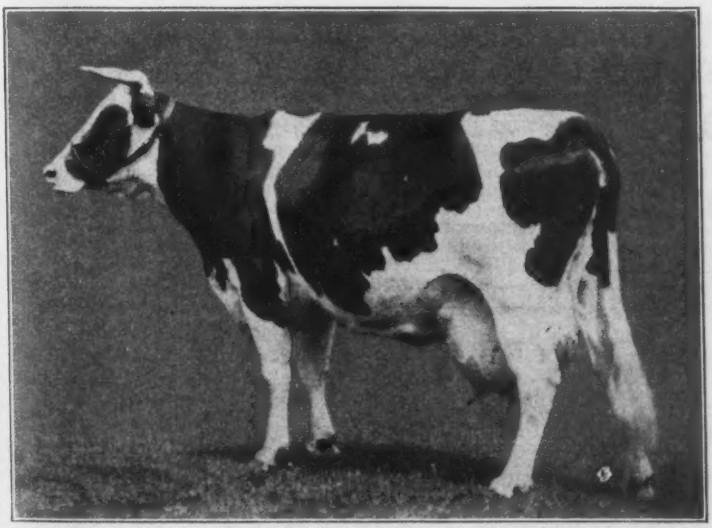


FIGURE 19.—Holstein cow, Daisy Aaggie Ormsby 3d 571569. This cow has the highest yearly butterfat record of all the breeds in the United States.

mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW

	Perfect score
Forehead, broad between the eyes; dishing	2
Face, of medium length; clean-cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws, strong	3
Ears, of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	5
Chine, straight; strong; broadly developed, with open vertebrae	4
Loins and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad, with roomy pelvis; nearly level laterally; full above the thurls; carried out stright to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well-formed; plump; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 43,751 official records of Holstein cows and heifers that were completed up to January 1, 1933, show an average yearly production of 16,036 pounds of milk and 544.5 pounds of butterfat, the average test being 3.4 percent.

The 10 highest butterfat and milk producers among the Holsteins are listed in table 13.

TABLE 13.—*The 10 highest Holstein yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
DeKol Plus Segis Dixie 295135 [1]	1,349.3	Segis Pietertje Prospect 221846	37,381
Daisy Aaggie Ormsby 3d 571569	1,286.2	Carnation Prospect Veeman 799610	36,859
May Walker Ollie Homestead 300043	1,218.6	Helm Veeman Woodcrest 486877	36,218
Femco Johanna Bess Payne 1073533	1,208.6	Lady Pride Pontiac Lieuwkje 849602	35,627
Hollywood Lilith Palmyra Abbekerk 400491	1,206.8	Kolrain Marion Finderne 317398	35,340
Duchess Skylark Ormsby 124514	1,205.1	Kolrain Finderne Bess 291570	35,085
Carnation Walker Hazelwood 834565	1,198.8	Kathleen Triumph 1032712	34,972
Bess Johanna Ormsby 263431	1,198.1	Nookssack Lunde Oregon DeKol 301119	34,511
Lady Pride Pontiac Lieuwkje 849602	1,186.4	May DeKol Francy 1284026	34,448
Redfield Segis Johanna 735950	1,182.9	Queen Carlotta DeKol 311674	34,430

[1] Canadian cow.

BULLS

The 10 Holstein sires having the largest number of daughters with yearly records are listed in table 14.

TABLE 14.—*The 10 Holstein sires with the largest number of yearly-record daughters*

Sire	Number of daughters	Sire	Number of daughters
King of the Ormsbys 178078	108	Dutchland Colantha Sir Inka 50999	74
Matador Segis Walker 148839	98	Judge Segis 80912	74
King Segis Alcartra Prilly 192705	87	Sir Johanna Fayne 42147	73
Sir Inka Prilly Segis 80914	80	Colantha Sir Walker Korndyke 95460	71
King Pontiac Champion 53418	75	King Ormsby Ideal 280526	71

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. Table 1 shows that, in 1920, there were in the United States 9,554,000 animals carrying more or less Jersey blood. According to table 2, in 1930 there were 354,939 registered Jerseys in the United States. It is estimated that on January 1, 1933, the number of registered Jerseys was 331,338.[5]

GENERAL CHARACTERISTICS

The Jersey (figs. 20, 21, 22, and 23) is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop

[5] See footnote 1, p. 7.

the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

SCALE OF POINTS FOR JERSEY COW

DAIRY TEMPERAMENT AND CONSTITUTION

	Perfect score
Head	7
Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong	4
Neck thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body	37
Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development	10
Back straight and strong, with prominent spinal processes; loins broad and strong	5
Rump long to tail setting, and level from hip bones to rump bones	6
Hip bones high and wide apart	3
Thighs flat and wide apart, giving ample room for udder	3
Legs proportionate to size and of fine quality, well apart, with good feet, and not weaving or crossing in walking	2
Hide loose and mellow	2
Tail thin, long, with good switch, not coarse at setting on	1

MAMMARY DEVELOPMENT

Udder	26
Large size, flexible, and not fleshy	6
Broad, level or spherical, not deeply cut between teats	4
Fore udder full and well rounded, running well forward of front teats	10
Rear udder well rounded, and well out and up behind	6
Teats of good and uniform length and size, regularly and squarely placed	8
Milk veins large; long; tortuous and elastic; entering large and numerous orifices	4

SIZE AND GENERAL APPEARANCE

Size, mature cows, 800 to 1,000 pounds	4
General appearance, a symmetrical balancing of all the parts, and a proportion of parts to one another, depending, on size of animal; with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and rich in butterfat. To January 1, 1933, 49,465 Register-of-Merit yearly records had been completed by Jersey cows. The average of these records made by cows of all ages in both the 305- and 365-day divisions was 456.3 pounds of

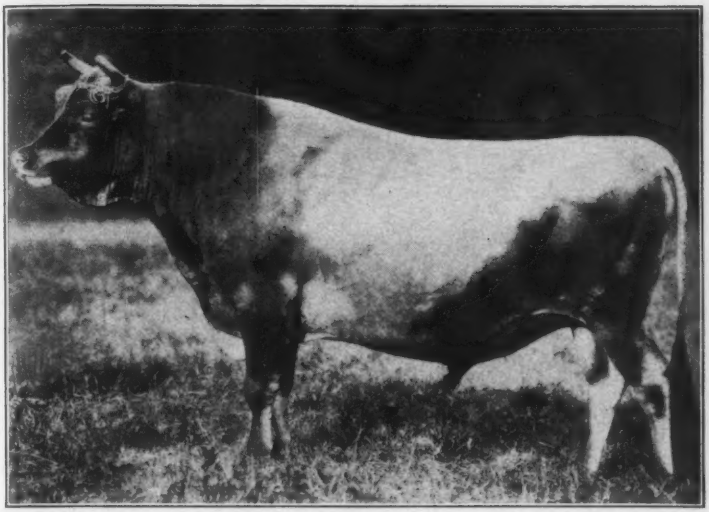


FIGURE 20.—Jersey bull, Dairylike Majesty 198188. One hundred and twenty-six of his daughters are in the Register of Merit.

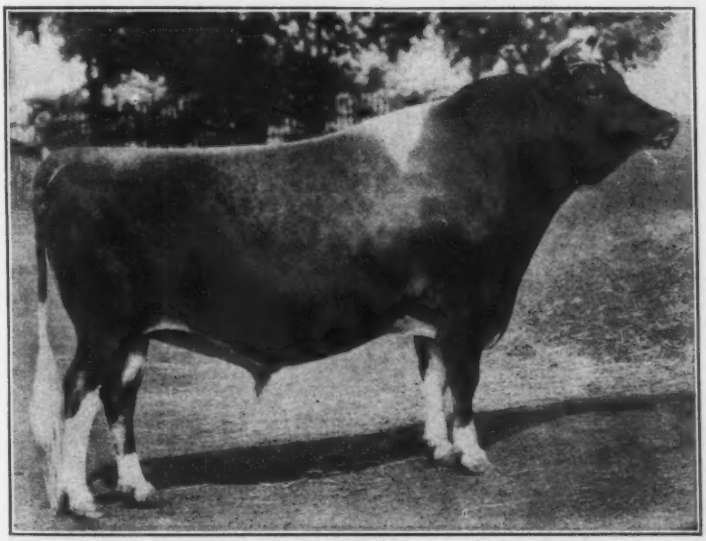


FIGURE 21.—Jersey bull, February Fern's Noble 308129. Grand champion, National Dairy Show, 1930.

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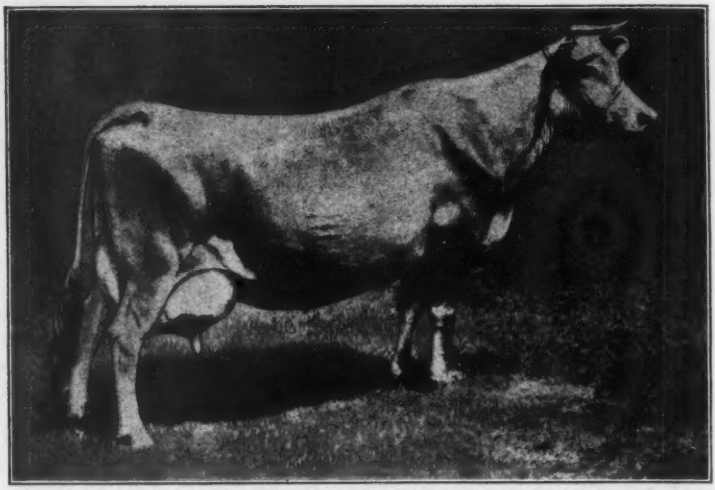

FIGURE 22.—Jersey cow, Abagail of Hillside 457241. Highest milk and butterfat producer of the breed in the United States.

FIGURE 23.—Jersey cow, Blonde's Cunning Mouse 657030. Grand champion, National Dairy Show, 1930.

butterfat and 8,520 pounds of milk a year, with an average test of 5.36 percent. Of this group, 27,981 were 365-day records that averaged 484 pounds of butterfat and 9,026 pounds of milk. The 305-day records averaged 423.1 pounds of butterfat and 7,931 pounds of milk.

The 10 highest butterfat and milk producers among the Jerseys are listed in table 15.

TABLE 15.—*The 10 highest Jersey yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Abagail of Hillside 457241	1,197.5	Abagail of Hillside 457241	23,677
Darling's Jolly Lassie 435948	1,141.3	Madeline of Hillside 389336	20,624
Groff's Constance 367292	1,130.1	Fauvic's Star 313018	20,616
Prince's Emma of H.S.F. 359390	1,110.0	Fauvic Ruth 385463	19,805
California's Rinda's Insie 565559	1,073.4	Passport 219742	19,695
Imp. Cancalaise 696129	1,072.4	Red Lady 396118	19,608
Lad's Iota 350672	1,048.1	Sybil's Miss May 477787	19,239
Fauvic Ruth 385463	1,047.3	Lad's Likeness 338246	19,223
Imperial Isabel 447661	1,045.1	Eminent's Jimp's Owl 297471	19,099
Madeline of Hillside 389336	1,044.0	Raleigh's Torono's Meme 544207	19,076

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to January 1, 1933, are listed in table 16.

TABLE 16.—*The 10 Jersey sires with largest number of daughters in Register of Merit*

Sire	Number of daughters	Sire	Number of daughters
Dairylike Majesty 198188	126	Royal Majesty of St. Cloud 89541	83
Pogis 99th of Hood Farm 94502	121	Hood Farm Pogis 9th 55552	79
Sophie 19th's Tormentor 113302	101	Hood Farm Torono 60326	73
Sybil's Gamboge 174663	88	Spermfield Owl's Progress 163331	71
Imported Oxford You'll Do 111860	84	Imported Golden Fern's Noble 145762	66

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations and their addresses are as follows:

American Guernsey Cattle Club, Peterboro, N.H.
American Jersey Cattle Club, 324 West Twenty-third Street, New York City.
Ayrshire Breeders' Association of the United States of America, Brandon, Vt.
Brown Swiss Cattle Breeders' Association, Beloit, Wis.
Dutch Belted Cattle Association of America, Wells, Minn.
Holstein-Friesian Association of America, Brattleboro, Vt.

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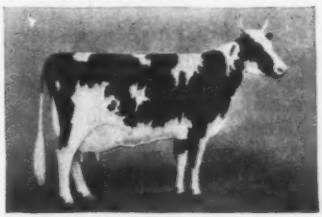
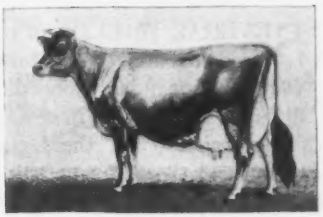
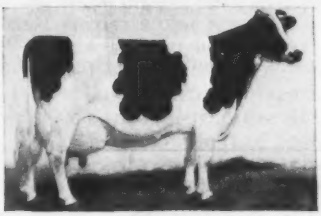
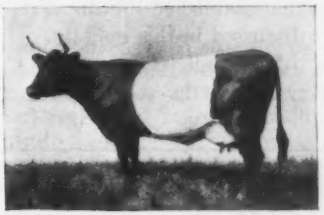
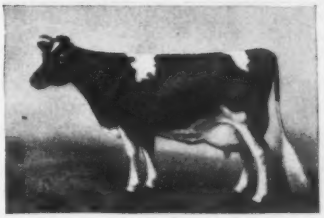
DAIRY CATTLE BREEDS

Rev.ed. follows



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SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

Washington, D. C. Issued February 1925, revised December 1935

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *senior dairy husbandman, Administrative Division, Bureau of Dairy Industry*

CONTENTS

	Page		Page
Dairy cattle in the United States	1	Brown Swiss	11
What is a dairy breed?	4	Dutch Belted	15
Registration	4	Guernsey	18
Which breed to select	5	Holstein-Friesian	23
The score card	6	Jersey	27
Ayrshire	6	Breed associations	31

DAIRY CATTLE IN THE UNITED STATES

ACCORDING TO ESTIMATES made by the United States Department of Agriculture, about 36,000,000 cattle of all ages were being kept for dairy purposes in the United States in 1935. About two-thirds of these, or approximately 24,000,000, were cattle of six dairy breeds; namely, Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. Of the other one-third, about 8,000,000, or 22 percent, were cattle of dual-purpose and beef breeds used for milk production, and about 4,000,000, or 11 percent, were cattle of no particular breed.

Of the 24,000,000 cattle of the dairy breeds, about 4.7 percent, or 1,131,000, are registered. Any improvement in our dairy cattle will come largely from increasing the number of good registered animals and through the use of good registered bulls in grade dairy herds. The development of good grade dairy herds from herds of no particular breed can be accomplished in a few generations by the use of good registered bulls. For these reasons, registered dairy cattle have played in the past and will play in the future a very important role in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Tables 1 and 2 show the number and distribution of the various dairy breeds in the United States, by sections and by States. Table 1 shows the estimated total number of grades and registered dairy cattle

TABLE 1.—*Approximate number and percentage of cattle of dairy breeds, including registered and grades, by sections, in the United States, January 1, 1935*

Breed	Total	United States	North Atlantic States	North Central, East	North Central, West	South Atlantic States	South Central States	Far West
	Number	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Ayrshire	320,000	1.4	4.0	0.6	1.4	0.4	0.3	1.0
Brown Swiss	250,000	1.0	.8	2.0	1.3	.3	.4	.5
Guernsey	3,741,000	15.7	21.6	20.6	13.5	19.6	2.4	17.5
Holstein-Friesian	9,549,000	39.9	56.5	46.7	53.7	12.7	9.2	47.0
Jersey	10,047,000	42.0	17.1	30.1	30.1	67.0	87.7	33.8
Total	23,907,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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of each breed on January 1, 1935. The relative percentages of each breed in the different sections are based on information obtained by the Bureau of Agricultural Economics from an inquiry sent to over 21,000 crop correspondents in February 1932, and are believed to be not far from the average proportions on January 1, 1935. Grades were listed with the respective breeds to which they seemed to belong.

Dutch Belted cattle, though comparatively few in number, are widely distributed in the United States.

Table 2 shows the number of registered cattle of the dairy breeds on January 1, 1930, as enumerated by the census.

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1930, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	1,280,161	48,236	25,734	200,721	649,739	354,939	792
Geographic divisions:							
New England	87,889	12,256	467	19,397	32,567	23,089	113
Middle Atlantic	281,054	20,584	2,177	46,916	180,095	31,220	62
East North Central	401,332	5,295	13,947	66,368	233,768	81,804	150
West North Central	211,884	5,106	7,984	30,046	123,610	44,869	269
South Atlantic	72,467	1,536	206	20,577	21,200	28,885	63
East South Central	57,704	166	22	1,441	4,446	51,628	1
West South Central	66,877	316	102	1,755	7,171	57,458	75
Mountain	36,489	1,007	229	4,030	21,878	9,328	17
Pacific	64,465	1,970	600	10,191	25,004	26,658	42
New England:							
Maine	16,021	1,096	89	4,003	4,613	6,134	86
New Hampshire	11,179	2,115	55	2,555	5,153	1,301	
Vermont	25,716	4,065	145	3,468	7,986	10,045	7
Massachusetts	19,552	2,753	105	5,491	8,187	3,013	3
Rhode Island	3,182	429	13	796	1,555	388	1
Connecticut	12,239	1,798	60	3,084	5,073	2,208	16
Middle Atlantic:							
New York	155,626	14,881	1,230	19,390	106,311	13,799	15
New Jersey	17,075	316	164	3,925	10,232	2,397	41
Pennsylvania	108,353	5,387	783	23,601	63,552	15,024	6
East North Central:							
Ohio	82,102	1,441	940	12,440	35,027	32,253	1
Indiana	35,751	535	553	6,429	12,103	16,094	37
Illinois	59,615	625	4,474	5,241	29,060	10,179	36
Michigan	71,750	777	1,547	11,736	41,786	15,844	60
Wisconsin	152,114	1,917	6,433	30,522	105,792	7,434	16
West North Central:							
Minnesota	78,650	1,066	3,176	15,147	54,072	5,141	48
Iowa	43,702	733	3,414	6,569	26,211	6,711	64
Missouri	31,548	160	144	2,289	7,875	21,030	50
North Dakota	9,354	118	339	1,454	6,950	493	
South Dakota	9,141	312	488	1,203	6,516	595	27
Nebraska	11,933	420	146	1,240	7,865	2,250	12
Kansas	27,556	2,297	277	2,144	14,121	8,649	68
South Atlantic:							
Delaware	2,896	86		877	1,545	388	
Maryland	19,294	661	57	6,093	9,553	2,885	45
District of Columbia	234			1	231	2	
Virginia	14,150	82	35	5,288	5,756	2,989	
West Virginia	6,863	293	107	1,112	1,668	3,682	1
North Carolina	11,788	362	1	3,393	978	7,054	
South Carolina	5,969			2,430	733	2,776	
Georgia	8,432	2	3	947	388	7,092	
Florida	2,841	50	3	436	318	2,017	17
East South Central:							
Kentucky	16,903	32	20	616	2,953	13,281	1
Tennessee	18,869	34	2	210	894	17,729	
Alabama	6,764	23		212	143	6,386	
Mississippi	15,168	77		403	456	14,232	
West South Central:							
Arkansas	6,532	5	5	264	514	5,737	7
Louisiana	4,234	1		123	431	3,679	
Oklahoma	16,130	233	92	867	3,770	11,167	1
Texas	39,981	77	5	501	2,456	36,875	67
Mountain:							
Montana	4,551	111	125	653	3,167	495	
Idaho	9,557	194	27	1,577	4,842	2,917	
Wyoming	1,596	1	11	194	1,127	262	1
Colorado	8,155	403	42	764	5,669	1,277	
New Mexico	1,322	13		54	463	777	15

[1] Including animals reported as registered, but with breed not specified.

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1930, by States and sections, as shown by the census* —Continued

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds
Mountain—Continued.							
Arizona	3,427	166	15	276	1,956	1,014	----------
Utah	6,848	35	----------	485	3,901	2,427	----------
Nevada	1,033	84	9	27	733	159	1
Pacific:							
Washington	19,597	691	140	3,960	8,125	6,681	----------
Oregon	21,755	328	261	3,190	3,577	14,360	39
California	29,113	951	199	3,041	13,302	5,617	3

Table 3 gives the average annual production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that had official yearly records to Jan. 1, 1935*

Breed	Records of cows and heifers	Milk	Butterfat	
			Quantity	Test
	Number	*Pounds*	*Pounds*	*Percent*
Ayrshire	[1] 8,543	10,429	415.0	3.98
Brown Swiss	732	13,597	544.7	4.00
Dutch Belted	99	10,570	417.0	3.94
Guernsey	[2] 41,763	10,063	499.9	4.97
Holstein-Friesian	[3] 49,310	16,037	545.9	3.40
Jersey	51,227	8,529	456.9	5.36

[1] Includes 1,770 305-day records.
[2] Includes 3,554 10-month records.
[3] Includes 13,381 10-month records.
[4] Includes 16,971 305-day records.

Table 4 compares the breeds of milk cows in different sections of the United States and in herds of various sizes. This table is based on an inventory taken February 1, 1932, of the herds of 21,554 crop correspondents scattered throughout the United States. The relative number of milk cows of each breed—grades and registered combined—is expressed as a percentage of all the milk cows reported for each of the different-sized herds.

TABLE 4.—*Breeds of milk cows in different sections, and in herds of various sizes*[1]

Section and size of herd	Total	Holstein	Jersey	Guernsey	Ayrshire and Brown Swiss	Shorthorn and Red Polled	Hereford, Aberdeen Angus, and others	Mixed breeding
Section:	*Number*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
North Atlantic	3,200,000	51.1	15.5	19.5	4.3	2.6	0.4	6.6
East North Central	5,975,000	36.0	23.2	15.9	2.0	12.7	1.9	8.3
West North Central	6,951,000	23.9	13.4	6.0	1.2	36.2	7.8	11.5
South Atlantic	1,849,000	8.9	47.1	13.8	.5	6.1	4.7	18.9
South Central	4,948,000	6.3	60.0	1.7	.5	9.3	4.2	18.0
Far West	2,177,000	33.5	24.2	12.7	1.1	16.2	3.4	8.9
United States	25,100,000	26.8	28.2	10.5	1.6	17.2	4.2	11.6
Number of milk cows per farm:								
1	1,632,000	8.4	60.0	7.0	1.1	5.5	1.7	16.3
2 or 3	3,740,000	11.5	48.8	7.7	.9	12.2	3.8	17.1
4 or 5	3,589,000	16.4	34.0	9.1	1.1	19.0	4.0	15.4
6 to 10	7,078,000	24.4	22.8	9.8	1.5	23.6	4.9	12.8
11 to 20	5,974,000	37.3	16.8	12.4	2.1	19.3	4.1	8.0
21 to 30	1,632,000	46.8	20.3	13.1	2.2	9.8	3.5	4.3
31 to 50	853,000	46.8	25.3	12.9	2.6	4.7	1.9	5.8
Over 50	602,000	39.8	26.8	17.2	2.6	6.6	2.2	5.0
Total	25,100,000	26.8	28.2	10.5	.7	17.2	4.1	11.6

[1] Prepared by J. B. Shepard, Bureau of Agricultural Economics. Breed percentages were derived from inventories of herds kept by crop correspondents.

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WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of registered dairy cows to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a registered dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A registered dairy animal is one that has met the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a registered animal with a scrub, or from mating animals not registered but having near ancestors that are registered. The offspring of a registered animal and a grade is also a grade, and through progressive use of registered bulls such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either registered or grade animals; but to prevent misunderstanding it is desirable to precede the breed name with the word "registered" or "grade."

In addition to the breeds of dairy cattle mentioned, cows of other breeds, including both the beef and dual-purpose, are kept for dairy purposes. These are discussed in Farmers' Bulletin 612, Breeds of Beef Cattle.

REGISTRATION

To be eligible for registration a dairy animal must be from a sire and dam which are recorded by name and number in a register of the breed, commonly called the herdbook. The animal must also meet certain color qualifications and other requirements for registration which are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the associations concerned, as listed on page 31.

In addition to the herd register there is for each breed another register in which are entered the names of registered cows that have completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and proved bulls is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The Ayrshire, Guernsey, Holstein, and Jersey organizations have each adopted a supplementary register called the Herd Test, or Herd-Improvement Register. This differs from the Advanced Register and Register of Merit in that breeders must test and report the production of every cow in the herd, rather than only a few selected animals.

The requirements for admission to these special registers of production and the rules under which the records are made vary somewhat with different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question of which breed to choose and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are (1) The breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with registered animals should as a rule select the same breed as his neighbors. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed, buyers are attracted to the locality because of the better chance of getting the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good registered bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with registered cows. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

PERSONAL PREFERENCE

In a district where no breed is established, or in sections where several breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well-liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder cannot shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

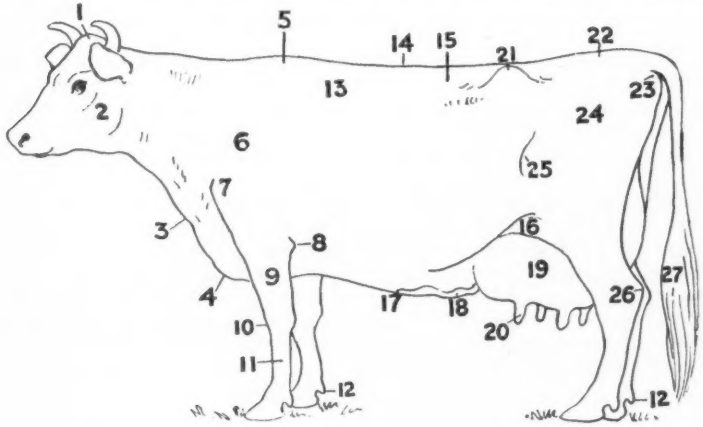
In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds and,

XUM

other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIGURE 1.—Diagram of cow showing names and location of parts.

special attention from breeders. The purpose of the score card is to teach beginners the art of judging, and also to encourage the formation of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful, a diagram is given in figure 1 which names and locates the various parts referred to on the score cards.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importa-

tions to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations of Ayrshires into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. Table 1 shows that in 1935 there were in the United States 320,000 animals carrying more or less Ayrshire blood. According to table 2, there were, in 1930, 48,236 registered Ayrshires in the United States. By January 1, 1935, it is estimated that the number of registered Ayrshires had increased to

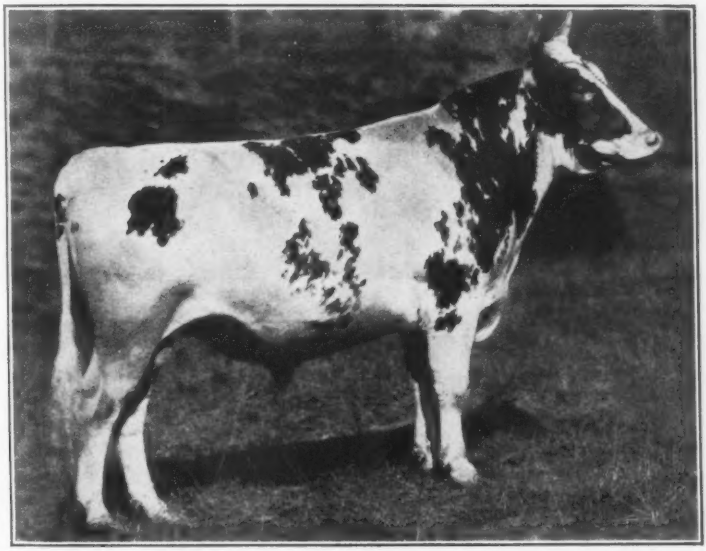


FIGURE 2.—Ayrshire bull, Willoxton Satisfaction 42680. Grand champion, National Dairy Show, 1930.

59,733.[1] Ayrshires are scattered through practically all the States, though by far the largest numbers are in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls (figs. 2 and 3) varies from 1,500 to 2,000 pounds, with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is

[1] This figure has been calculated from yearly registrations, the allowances for deaths being estimated and 1930 census figures used as a check.

white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

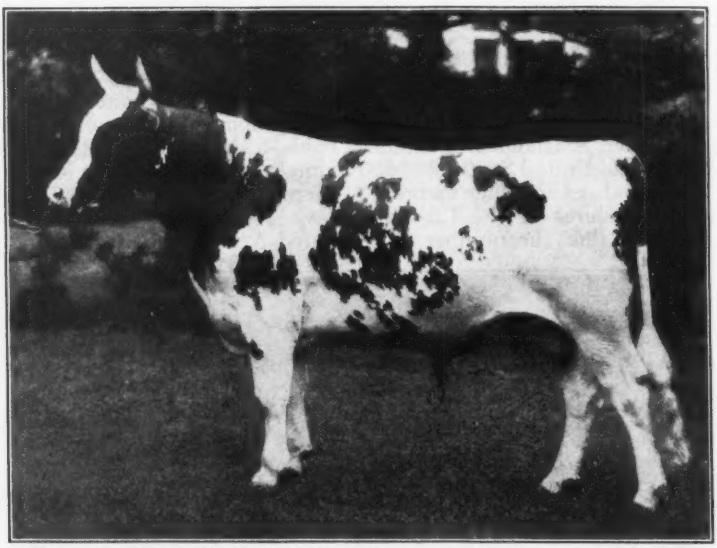


FIGURE 3.—Ayrshire bull, Penshurst Man O'War 25200. One hundred and fifty-four of his daughters are in the Advanced Registry.

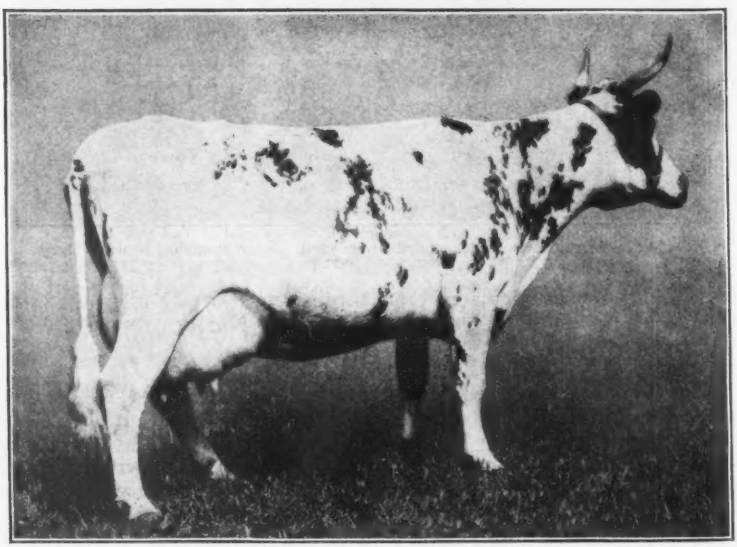


FIGURE 4.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed in the United States.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quar-

ters are generally even; the teats medium in size and well-placed (figs. 4 and 5).

SCALE OF POINTS FOR AYRSHIRE COW OR HEIFER

ANATOMY		*Perfect score*
Head		9
Forehead, reasonably broad between the eyes and slightly dished	1	
Face, of medium length, clean cut, feminine; the bridge of the nose straight to nostrils	1	
Muzzle, broad and strong, with large open nostrils	2	
Jaws, wide at the base, well muscled, and strong	1½	
Eyes, moderately large, placid, full, and bright	1½	
Ears, medium size, fine, and carried alertly	½	
Horns, small at base, not coarse nor too long; inclining upwards	1½	
Neck, medium length, smoothly blending with shoulders and throat, showing feminine refinement		2

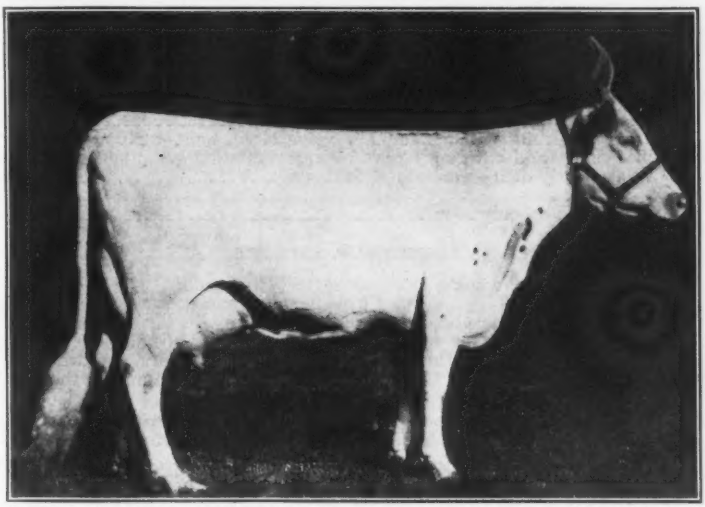


FIGURE 5.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed in the United States.

Shoulders, long, sloping and tapering from the base to the top of the shoulder blades; neatly and firmly attached to the body wall; tops of the blades not extending to the top of chine		5
Chest, full, and wide between and back of forearms; brisket light and refined		5
Chine, straight, strong, open jointed, narrow at the top, nicely blending into shoulders and a well-sprung rib		3
Crops, full, level with shoulders		4
Barrel, medium length, deep, but strongly held up; rib, well sprung; bones long, flat, and wide apart		10
Loin, broad, strong, and level with hips		4
Rump or pelvic area, wide, long, and roomy; top line extending level from loin to and including tail head		12
Hips, wide, with points rather sharply defined and level with back line		
Pin bones, wide apart and nearly level with hip bones; well-defined, not overlaid with fat		
Thurls, broad and set slightly below line from hip points to pin bones		
Tail head, level with back line, neatly molded, and showing no evidence of roughness		

		Perfect score
Tail, long and fine, with full switch		1
Flank, deep, slightly arched, and refined		1
Thighs, deep, straight and trim when viewed from the side. Flat and broad on sides. Twist or inside of thighs well cut out for udder development, with escutcheon well defined and carried high		2
Legs and feet, widely and squarely set under body; clean flat bone, front legs straight; hind legs nearly straight when viewed from rear; hocks and pasterns neatly and firmly molded; feet round, with plenty of depth at heels		8
Hide and hair, mellow, elastic hide of medium thickness; hair fine and soft		4
Mammary system		30
Size and shape of udder, broad, level, capacious, extending well forward and high behind; quarters even and of uniform size; floor of udder should be reasonably level and not deeply cut up between the quarters	10	
Attachment of udder, attached well forward with a neat and firm junction at body wall; carried wide and high behind, no evidence of breaking of tissues supporting front quarters nor of dropping of floor of udder	6	
Texture of udder, fine, soft, and pliable, with light skin	4	
Size, shape, and placement of teats, convenient size, symmetrical and nearly uniform, each hanging perpendicularly under the quarter; funnel-shaped teats objectionable	5	
Veining and milk wells, mammary veins large, long, tortuous, branching, and entering large or numerous milk wells; small veins clearly defined on udder	5	
Perfect anatomy score		100

BREED CHARACTERISTICS

In addition to the foregoing anatomy score of 100 points, which is applicable to all dairy cows, it has been deemed expedient to consider the following factors covering desirable Ayrshire breed characteristics.

To use this supplementary schedule, score the number of points in which the animal is deficient in each of the following breed characteristics, and deduct from the foregoing anatomy score the total number of points in which the animal is deficient.

	Deduct up to—
Style and quality, alert but docile; having an impressive carriage; graceful walk; and, above all, displaying evidence of feminine refinement and outstanding dairy character	7
Symmetry and balance, a symmetrical balancing of all the parts and the proper proportioning of the various parts to each other	7
Size and weight, mature cows should weigh from 1,100 to 1,400 pounds, depending on period of lactation	4
Color, red of any shade, mahogany, brown, or these with white, or white, each color clearly defined. Distinctive red and white markings preferable; black or brindle markings strongly objectionable	2
Total deductions possible	20
Net score	

PRODUCTION

Ayrshire milk contains a percentage of butterfat that is about the average for all the dairy breeds. The 8,543 yearly records completed by 6,642 Ayrshire cows and heifers in the Advanced Registry, up to January 1, 1935, include one thousand seven hundred and seventy 305-day records, and average 10,429 pounds of milk per cow, containing 415 pounds of butterfat, or 3.98 percent of butterfat.

Under Herd-Test rules 225 Ayrshire herds containing 13,600 cows completed yearly records up to January 1, 1935, with an average per cow of 8,100 pounds of milk and 327 pounds of butterfat.

The 10 highest butterfat and the 10 highest milk producers among the Ayrshires, up to January 1, 1935, are listed in table 5.

TABLE 5.—*The 10 highest Ayrshire yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.6	Garclaugh May Mischief 27944	25,329
Vi's Bountiful Lassie 58096	923.2	Vi's Bountiful Lassie 58096	24,556
Auchenbrain Brown Kate 4th 27943	917.6	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.9	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.3	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.1	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.2	Nancy Whitehall 47810	22,074
Jean Armour 3d 32219	859.6	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.8	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.4	Willowmoor May Mischief 2d A 34173	21,161

BULLS

The 10 Ayrshire sires having the largest number of daughters with official yearly records, up to January 1, 1935, are listed in table 6.

TABLE 6.—*The 10 Ayrshire sires having the largest number of Advanced-Registry daughters*

Sire	Daughters	Sire	Daughters
	Number		*Number*
Penshurst Man O'War 25200	154	Metropolitan Nonie's Crusader 25910	62
Penshurst Rising Star 20922	91	Kate's Champion of Penshurst 18782	61
Penshurst Sir Robert 20029	74	Keystone Mischief 26657	59
Leto 14560	70	Imp. Beuchan Peter Pan 12971	58
Metropolitan Maid's Traveller 25943	65	Finlayston 8882 (imported)	56

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where the breed has been developed during many centuries. It is probably one of the oldest in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. Several importations have been made since but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of foot-and-mouth disease in Europe. Table 1 shows that, in 1935, there were in the United States 250,000 animals carrying more or less Brown Swiss blood. According to table 2, there were, in 1930, 25,734 registered Brown Swiss animals in the United States. By January 1, 1935, it is estimated that the number of registered Brown Swiss had increased to 34,090.[1] Brown Swiss are scattered in 37 States, the largest numbers being in Wisconsin, Illinois, New York, Minnesota, Michigan, Iowa, Pennsylvania, and Ohio.

[1] See footnote 1, p. 7.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are substantial in appearance, well proportioned, with the body well covered with flesh (figs. 6, 7, 8, and 9). The calves weigh from 65 to 90 pounds at birth. The heifers are slow in maturing. When full-grown the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually of a lighter shade than that on the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

SCALE OF POINTS FOR BROWN SWISS COW OR HEIFER

		Perfect score
Head		10
Size and form, medium and rather long	2	
Face, dished, narrow between horns, and wide between eyes	2	
Ears, fringed inside with light-colored hair, medium size, and carried alert	1	
Muzzle, large and square, with mouth surrounded by mealy-colored band; nose and tongue black	2	
Eyes, full and bright	2	
Horns, short, not too heavy, regularly set with black tips	1	
Neck, of good length, throat clean, neatly joined to head and shoulders, moderately thin at the withers		5
Fore quarters		9
Shoulders, not too heavy and smoothly blending into body	4	
Chest, deep and full between and back of forelegs	4	
Brisket, medium	1	
Body		13
Back, level to setting of tail and broad across the loin	6	
Ribs, long and broad, wide apart, and well sprung	3	
Barrel, long, deep, and well rounded	4	
Hind quarters		10
Hips, wide; pin bones high and wide apart; rump long and level from hip bones to tail setting	6	
Thighs, flat and wide apart, giving ample room for udder	2	
Tail, slender, well set on, with good switch	2	
Legs, of medium length and straightness, with good hoofs		2
Hide		5
Medium thickness, mellow and elastic	3	
Color, shades from dark to light brown; at some seasons of the year gray; white splashes on underline of belly are objectionable but do not disqualify; dark smoky skin objectionable; hair between horns usually of lighter shade than that on body	2	
Udder		32
Size, long, wide, deep, but not pendulous or fleshy	6	
Attachment, firmly attached to the body	4	
Veins, udder veins well-developed and plainly visible	2	
Balance, extending well up behind and far forward, quarters even	5	
Sole, nearly level and not indented between teats	2	
Teats, of good uniform length and size, regularly and squarely placed	6	
Texture, mellow, free from meatiness	7	
Mammary veins, large, long, tortuous, elastic, and entering good wells		6
Disposition, quiet but alert		2
General appearance		6
Total		100

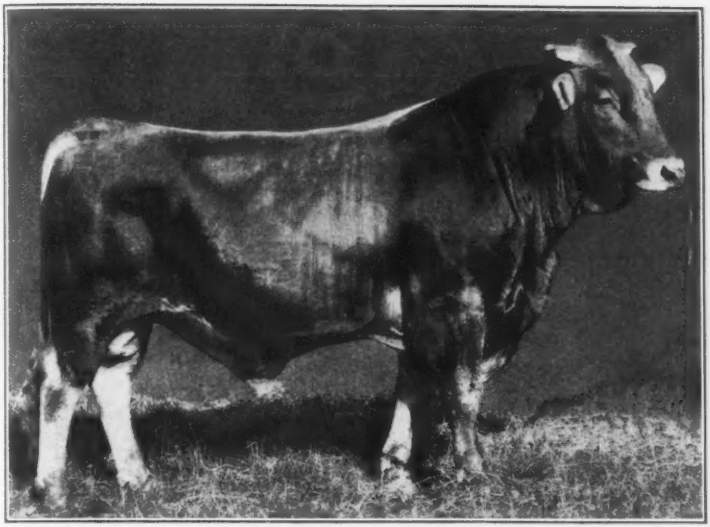


FIGURE 6.—Brown Swiss bull, Reuben 2927. Twenty-five of his daughters are in the Register of Production.

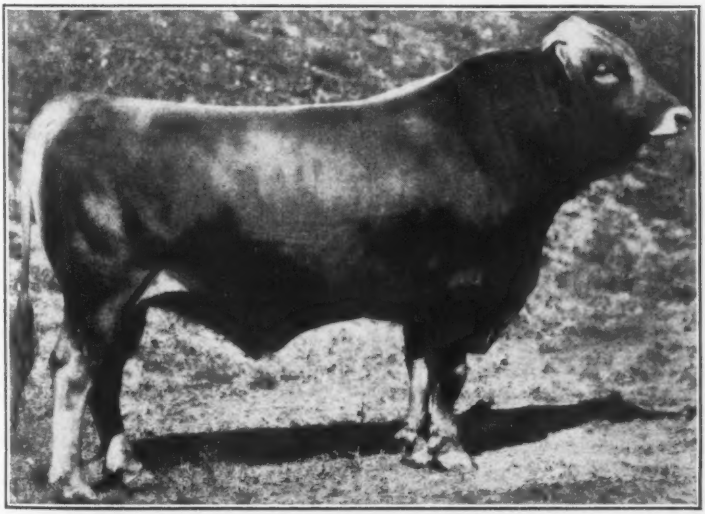


FIGURE 7.—Brown Swiss bull, March Molly 3d's Master 14350. Grand Champion, National Dairy Show, 1930.

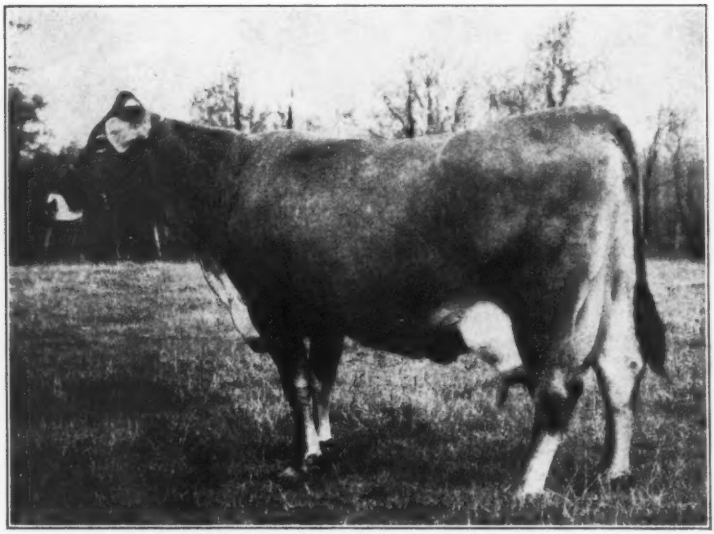


FIGURE 8.—Brown Swiss cow, Swiss Valley Girl 10th 7887. Champion milk and butterfat producer of the breed in the United States.

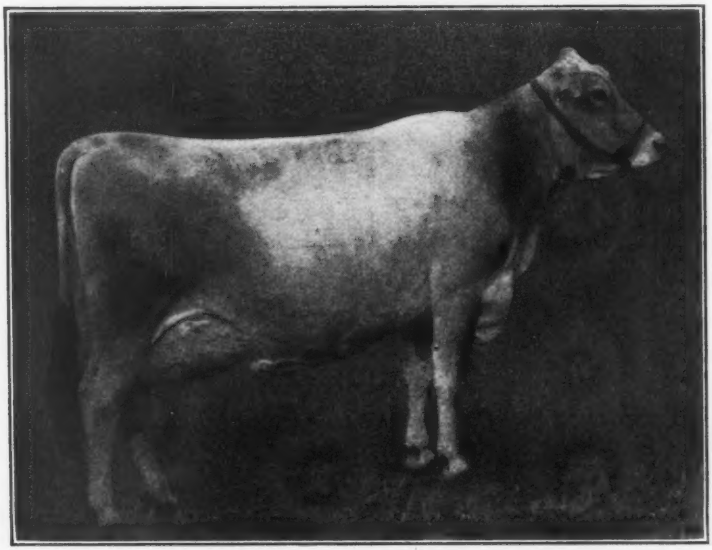


FIGURE 9.—Brown Swiss cow, Jane of Vernon 29496. Grand champion, Dairy Cattle Congress, 1934.

PRODUCTION

The Brown Swiss produce milk of average quality as compared with the other breeds of dairy cattle. The 732 cows and heifers that had completed yearly records and had been admitted to the Register of Production up to January 1, 1935, have an average yearly production of 13,597 pounds of milk and 544.7 pounds of butterfat per cow, with an average butterfat test of 4 percent. The 10 highest butterfat and the 10 highest milk producers among the Brown Swiss, up to January 1, 1935, are listed in table 7.

TABLE 7.—*The 10 highest Brown Swiss yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Swiss Valley Girl 10th 7887	1,106.3	Swiss Valley Girl 10th 7887	27,514
Jane of Vernon 29496	1,075.6	Believe 4245	25,848
June's College Girl 11427	1,062.3	Alice Lee 2nd 8777	24,845
Greenwood Valley Lass 18823	1,037.1	Illini Nellie 26578	24,634
Swiss Girl F. C. 13853	1,003.8	June's College Girl 11427	24,572
Believe 4245	1,002.6	Clepe E. 14082	24,226
Forest Girl of Lake View 11998	971.3	Miss Mary W. of Vandalia 5th 21277	24,018
Clepe E. 14082	969.3	Jane of Vernon 29496	23,569
Millicent of Walhalla 11178	961.6	Forest Girl of Lake View 11998	23,556
Cinderella Cream 13625	957.6	Swiss Girl F. C. 13853	23,236

BULLS

The 10 Brown Swiss sires having the largest number of daughters with official yearly records, up to January 1, 1935, are listed in table 8.

TABLE 8.—*The 10 Brown Swiss sires having the largest number of daughters in Register of Production*

Sire	Daughters	Sire	Daughters
	Number		*Number*
Reuben 2927	25	Nellie's Stasis 6721	14
Prince of Meadow Green 9427	16	Ilda's College Boy 6663	13
Sunny Hill Bob 6170	15	College Master 2986	12
Vogel's College Boy 5638	15	Swiss Valley Reuben 6074	12
Maiden's Vronicka's College Boy 11395	15	Beauty C.'s Master 6318	11

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in the Netherlands about two centuries ago. The breed gets its name from both the original home and from the distinctive color marking. It has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes.

These cattle later were placed on a farm, and this seems to be the beginning of the Dutch Belted cattle in the United States. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. It is estimated that on January 1, 1935, there were 700 registered animals of this breed in the United States.

GENERAL CHARACTERISTICS

Dutch Belted cattle (figs. 10 and 11) have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof, and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

SCALE OF POINTS FOR DUTCH BELTED COW	*Perfect score*
Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full, and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders, fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel, large and deep, with well-developed abdomen; ribs well rounded and free from fat	10
Hips, broad, and chine level, with full loin	10
Rump, high, long, and broad	6
Hind quarters, long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs, short, clean, standing well apart	3
Udder, large, well developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair, fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

PRODUCTION

By referring to table 3 it will be seen that, in the percentage of butterfat contained in her milk, the Dutch Belted cow ranks between the Holstein and the Ayrshire. The 99 Dutch Belted cows and heifers that finished yearly official records up to January 1, 1935, show an

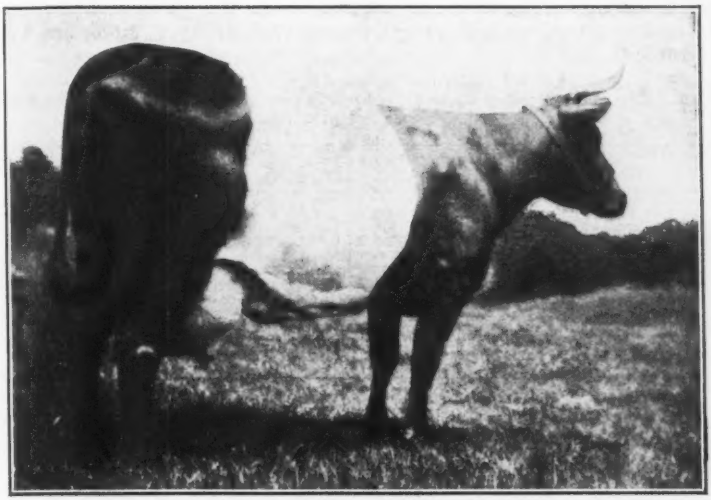


FIGURE 10.—Dutch Belted cow, Loraine of Brunswick 3020. Leading butterfat and milk producer of the breed in the United States.

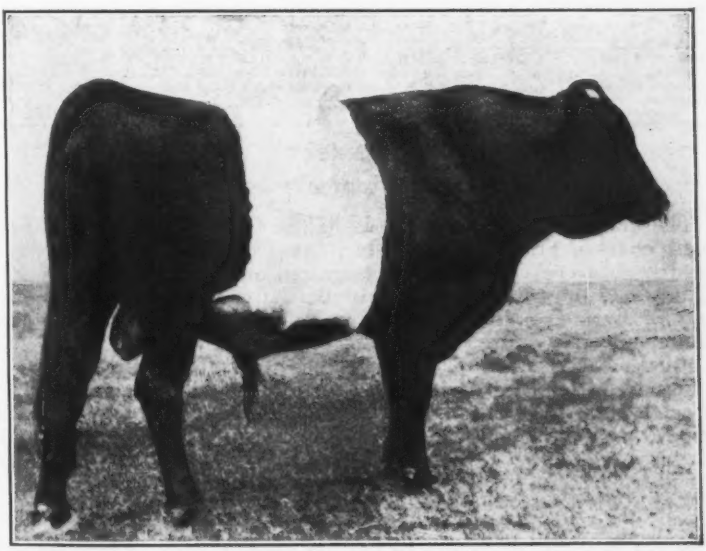


FIGURE 11.—Dutch Belted bull, Keith 934. Nine of his daughters are in the Advanced Register.

average production of 10,570 pounds of milk and 417 pounds of butterfat, with an average test of 3.94 percent.

The 10 highest producers of butterfat and the 10 highest producers of milk among Dutch Belted cows, up to January 1, 1935, are listed in table 9.

TABLE 9.—*The 10 highest Dutch Belted yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Loraine of Brunswick 3020	816.5	Loraine of Brunswick 3020	18,211
Marilyn 3232	793.2	Gem of Columbia 2038	17,268
Gloria 3231	780.1	Marilyn 3232	16,878
Sally Ann 3838	736.9	Gloria 3231	16,546
Green River Neritta 3d 3065	691.7	Sally Ann 3838	16,328
Eunice Ann 3423	681.4	Green River Neritta 3d 3065	16,074
Angelina 2641	668.1	Green River Neritta 2d 2958	16,055
Gem of Columbia 2038	633.9	Angelina 2641	16,023
Green River Neritta 2d 2958	582.2	Eunice Ann 3423	14,935
Glenbeulah's Beauty 2172	531.2	Elsie Blossom 2829	14,688

BULLS

The 10 Dutch Belted sires having the largest number of daughters with official records, up to January 1, 1935, are listed in table 10.

TABLE 10.—*The 10 Dutch Belted sires having the largest number of Advanced-Registry daughters*

Sire	Daughters	Sire	Daughters
	Number		*Number*
Keith 934	9	Sutton's Gay Lad 494	4
Salvador 2d 1448	8	Wonder of Lakeview 1483	3
Samoset 1134	5	Salvador 1319	3
Michigan Prince 1258	5	Glenbeulah's Duke 1092	3
Defendant 1185	5	Bruce W. 729	3

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to the United States were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or

Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

Table 1 shows that, in 1935, there were in the United States about 3,700,000 animals carrying more or less Guernsey blood. According to table 2, there were 200,721 registered Guernseys in the United States in 1930. By January 1, 1935, it was estimated that the number of registered Guernseys had increased to 202,500.[3]

GENERAL CHARACTERISTICS

In size the Guernseys (figs. 12, 13, 14, and 15) are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth and reach maturity early. When mature, the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

SCALE OF POINTS FOR GUERNSEY COWS

	Perfect score
Style and symmetry, attractive individuality revealing vigor, femininity and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing femininity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel, deep and long, with well-sprung ribs. Individual ribs, long, flat, wide apart, and free from excess tissue	10
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern, strong and springy	2
Hide, loose and pliable, and not thick, with oily feeling; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bones and hair; nicely balanced switch	2

[3] See footnote 1, p. 7.

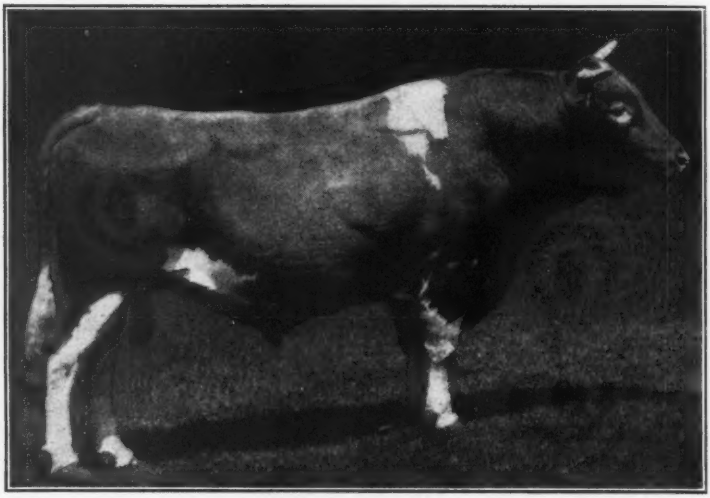


FIGURE 12.—Guernsey bull, Yeoman's King of the May 17053. One hundred and eleven of his daughters are in the Advanced Register.

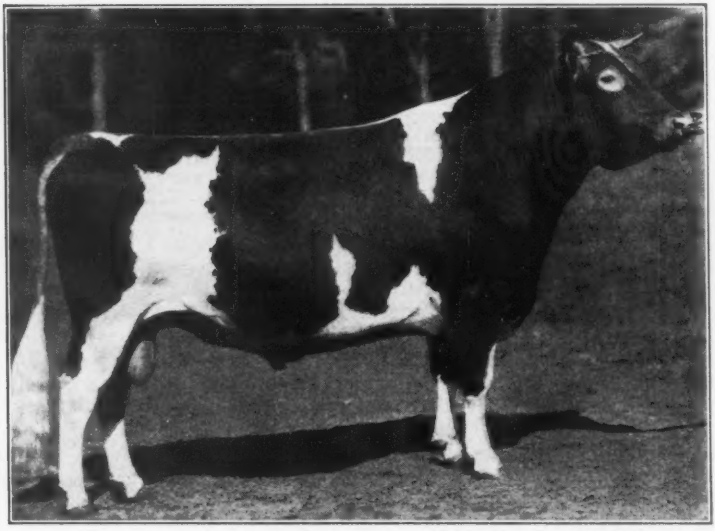


FIGURE 13.—Guernsey bull, Langwater Waldorf 128541. Grand Champion, National Dairy Show, 1931.

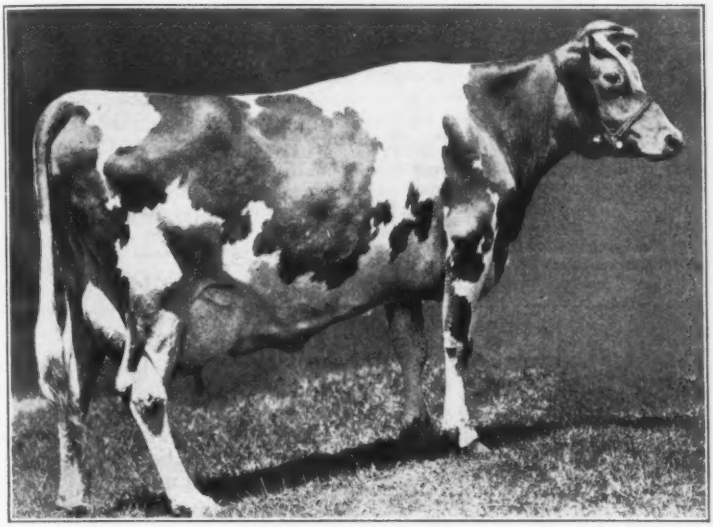


FIGURE 14.—Guernsey cow, Anesthesia Faith of Hill Stead 114354. Champion butterfat producer of the breed in the United States.

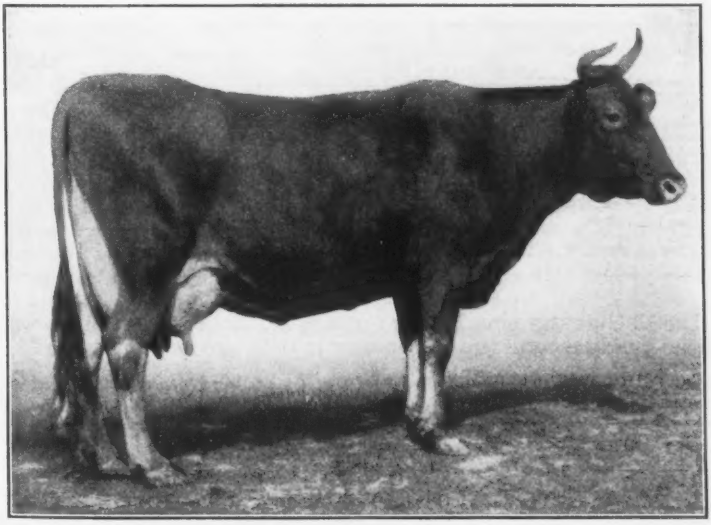


FIGURE 15.—Guernsey cow, Murne Cowan 19597. Champion milk producer of the breed in the United States.

	Perfect score
Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even, convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins, long, tortuous, prominent, and branching, with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin, which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

PRODUCTION

Guernsey milk has a high percentage of butterfat and a yellow color.

The 41,763 Guernsey records completed by 34,033 cows in the Advanced Register up to January 1, 1935, average 10,063 pounds of milk containing 499.9 pounds of butterfat, or 4.97 percent of butterfat.

Under Herd-Improvement rules 158 Guernsey herds containing 1,117 cows completed 1,225 yearly records up to January 1, 1935, with an average production of 8,273.5 pounds of milk and 412 pounds of butterfat.

The 10 highest butterfat and the 10 highest milk producers among the Guernseys, up to January 1, 1935, are shown in table 11.

TABLE 11.—*The 10 highest Guernsey yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Anesthesia Faith of Hill Stead 114354	1,112.5	Murne Cowan 19597	24,008
Countess Prue 43785	1,103.3	Grassland Zenoria 185315	22,848
Murne Cowan 19597	1,098.2	Topsy of Thousand Springs 137339	22,000
May Rilma 22761	1,073.4	Pet of LaGrange 2d 48429	21,968
Baudy's Daisy of Buena Vista 212457	1,063.4	Trixie Alice of Cowham Farm 255436	21,932
Imp. Charmeuse of Ponchez 253818	1,057.8	Imp. Surprise of Brookmead 281287	21,341
Marigold of Elgercon 137240	1,028.3	Peterkin's Beauty of Fairview S. 113341	21,111
Wolfpen Lilac 221332	1,028.3	Katherine's Trixie 100396	21,071
Gertrude Claire 99550	1,020.0	Baudy's Daisy of Buena Vista 212457	21,056
Nella Jay 4th 38233	1,019.3	Gayhead's Honeysuckle 182706	20,754

BULLS

The 10 Guernsey sires having the largest number of daughters with official yearly records, up to January 1, 1935, are listed in table 12.

TABLE 12.—*The 10 Guernsey sires having the largest number of Advanced-Register daughters*

Sire	Daughters	Sire	Daughters
	Number		*Number*
Governor of the Chene (R. G. A. S. 1297 P. S.)	114	Langwater Foremost 39191, A. R.	67
Yeoman's King of the May 17053	111	Imp. Clara's Sequel 29414	66
Langwater Demonstrator 16451	77	Sregor Ultra King 85369	57
Florham Laddie 20431	71	Langwater Holliston 28055	56
Imp. Masher's Sequel 11462	70	Imp. Sailor Lad V. of the Fontaines 123257	55

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in the northern part of the Netherlands, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian the single word "Holstein" is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

Table 1 shows that in 1935 there were in the United States 9,549,000 animals carrying more or less Holstein blood. According to table 2, there were, in 1930, 649,739 registered Holsteins in the United States. It is estimated that on January 1, 1935, the number of registered Holsteins was 553,871.[4] Holstein cattle are found throughout all the 48 States, though by far the largest number are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These 6 States contain more than 60 percent of the registered Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins (figs. 16, 17, 18, and 19) are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW	*Perfect score*
Forehead, broad between the eyes; dishing	2
Face, of medium length; clean-cut; feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws, strong	3
Ears, of medium size; of fine texture; well carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well curved inward	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulder	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	5

[4] See footnote 1, p. 7.

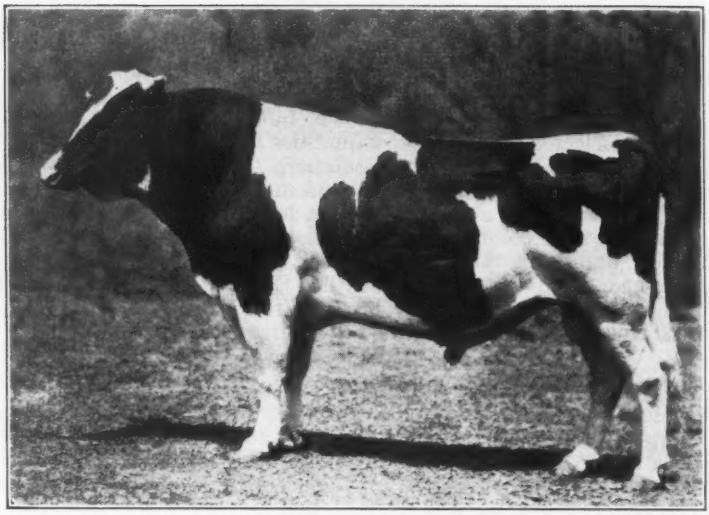


FIGURE 16.—Holstein bull, King of the Ormsbys 178078. One hundred and eight of his daughters are in the Advanced Register.

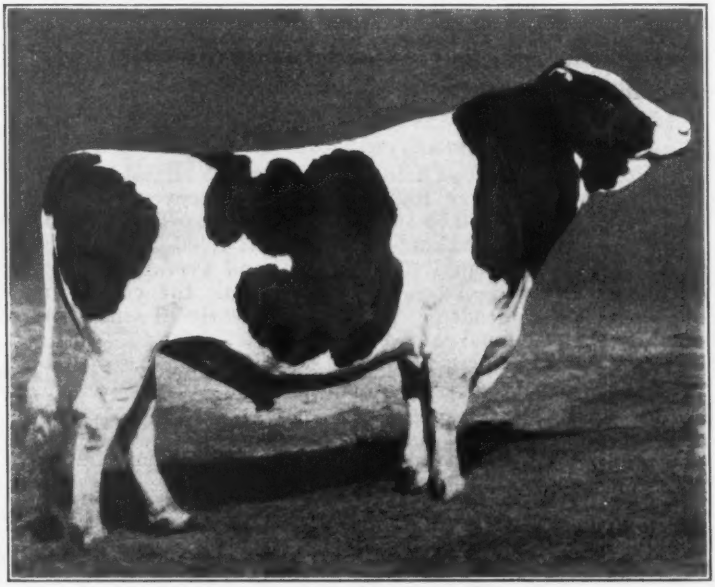


FIGURE 17.—Holstein bull, Sir Forbes Ormsby Hengerveld 412147. Grand champion, National Dairy show, 1930.

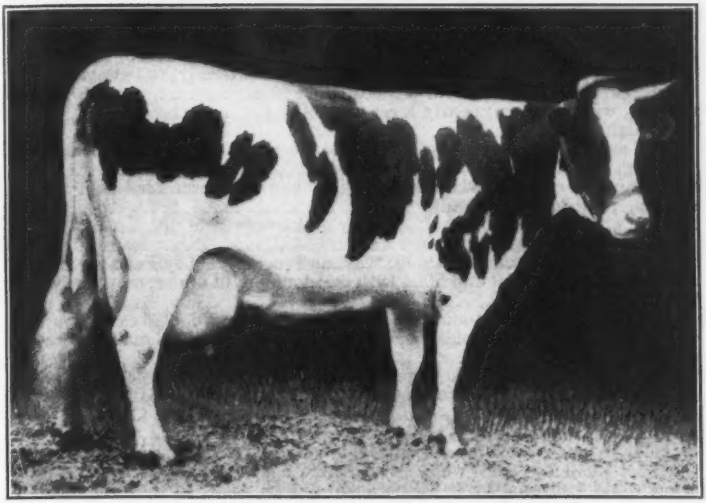


FIGURE 18.—Holstein cow, Segis Pietertje Prospect 221846. This cow has the highest yearly milk record of all the breeds in the United States.

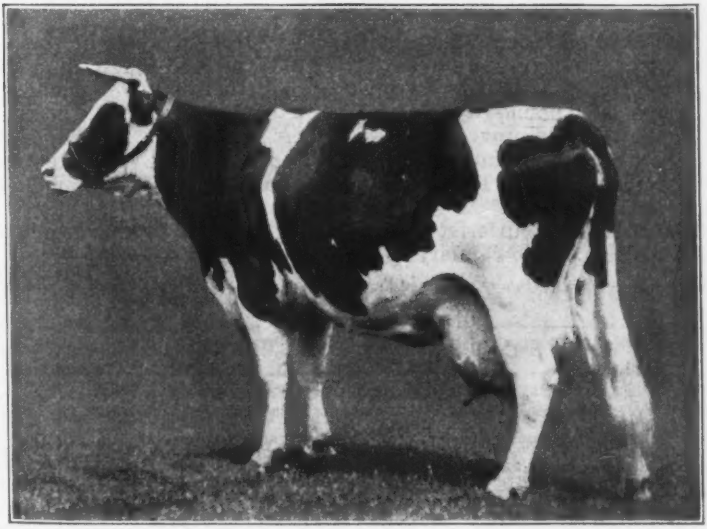


FIGURE 19.—Holstein cow, Daisy Aaggie Ormsby 3d 571569. This cow held the highest yearly butterfat record of all the breeds in the United States up to January 1, 1935. (See footnote 1, table 13).

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW—Continued

	Perfect score
Chine, straight; strong; broadly developed, with open vertebrae	4
Loins and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad, with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	8
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well attached	14
Teats, well-formed; plump; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	8
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 49,310 Advanced-Register records of Holstein cows and heifers that were completed up to January 1, 1935, include 13,381 10-month records, and show an average yearly production of 16,037 pounds of milk and 545.9 pounds of butterfat, the average test being 3.4 percent.

In the Herd-Improvement Register, up to October 1, 1934, 1,291 Holstein herds containing 41,240 cows had completed yearly records, with an average of 11,032 pounds of milk and 374.4 pounds of butterfat.

The 10 highest butterfat and the 10 highest milk producers among the Holsteins, up to January 1, 1935, are listed in table 13.

TABLE 13.—*The 10 highest yearly butterfat and milk production records of Holstein cows registered in the United States*[1]

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
De Kol Plus Segis Dixie 295135[2]	1,349.3	Segis Pietertje Prospect 221846	37,381
Daisy Aaggie Ormsby 3d 571569	1,286.2	Carnation Prospect Veeman 799610	36,859
Carnation Prospect Ormsby Gluck 1042591.	1,225.4	Helm Veeman Woodcrest 486877	36,218
		Lady Pride Pontiac Lieuwkje 849602	35,627
Femco Johanna Bess Fayne 1073533	1,220.4	Kolrain Marion Finderne 317396	35,340
May Walker Ollie Homestead 300043	1,218.6	Kolrain Finderne Bess 291570	35,085
Hollywood Lilith Palmyra Abbekerk 400491.	1,206.8	Kathleen Triumph 1032712	34,972
		Nooksack Lunde Oregon De Kol 301119.	34,511
Duchess Skylark Ormsby 124514	1,205.1	May De Kol Francy 1284026	34,448
Carnation Walker Hazlewood 834565	1,198.9	Queen Carlotta De Kol 311674	34,430
Bess Johanna Ormsby 263431	1,198.1		
Carnation Ormsby Segis Beauty 1203395	1,191.7		

[1] Records completed during 1935:
Carnation Ormsby Nellie 1326284: Butterfat, 1328.8 pounds; milk, 35,886.8 pounds.
Calamity Nig of Elmwood Farms 1560447: Butterfat, 1,327.9 pounds; milk, 34,615.7 pounds.

[2] Canadian cow.

BULLS

The 10 Holstein sires having the largest number of daughters up to January 1, 1935, with yearly records are listed in table 14.

TABLE 14.—*The 10 Holstein sires with the largest number of yearly-record daughters*

Sire	Daughters	Sire	Daughters
	Number		*Number*
King of the Ormsbys 178078	108	Dutchland Colantha Sir Inka 50999	74
Matador Segis Walker 148839	98	Judge Segis 80912	74
King Segis Alcartra Prilly 192705	87	Sir Johanna Fayne 42147	73
Sir Inka Prilly Segis 80914	80	Colantha Sir Walker Korndyke 95460	71
King Pontiac Champion 53418	75	King Ormsby Ideal 280526	71

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. Table 1 shows that, in 1935, there were in the United States 10,047,000 animals carrying more or less Jersey blood. According to table 2, in 1930 there were 354,939 registered Jerseys in the United States. It is estimated that on January 1, 1935, the number of registered Jerseys was 279,895.[5]

GENERAL CHARACTERISTICS

The Jersey (figs. 20, 21, 22, and 23) is the smallest of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

[5] See footnote 1, p. 7.

SCALE OF POINTS FOR JERSEY COW

DAIRY TEMPERAMENT AND CONSTITUTION

	Perfect score
Head	7
Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong	4
Neck thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body	37
Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development	10
Back straight and strong, with prominent spinal processes; loins broad and strong	5
Rump long to tail setting, and level from hip bones to rump bones	6
Hip bones high and wide apart	3
Thighs flat and wide apart, giving ample room for udder	3
Legs proportionate to size and of fine quality, well apart, with good feet, and not weaving or crossing in walking	2
Hide loose and mellow	2
Tail thin, long, with good switch, not coarse at setting on	1

MAMMARY DEVELOPMENT

Udder	26
Large size, flexible, and not fleshy	6
Broad, level or spherical, not deeply cut between teats	4
Fore udder full and well rounded, running well forward of front teats	10
Rear udder well rounded, and well out and up behind	6
Teats of good and uniform length and size, regularly and squarely placed	8
Milk veins large; long; tortuous and elastic; entering large and numerous orifices	4

SIZE AND GENERAL APPEARANCE

Size, mature cows, 800 to 1,000 pounds	4
General appearance, a symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal; with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and is high in percentage of butterfat. To January 1, 1935, 51,227 Register-of-Merit yearly records had been completed by 40,108 Jersey cows. The average of these records made by cows of all ages in both the 305- and 365-day divisions was 456.9 pounds of butterfat and 8,529 pounds of milk a year, with an average test of 5.36 percent. Of this group, 34,256 were 365-day records that averaged 473.1 pounds of butterfat and 8,817 pounds of milk. The 305-day records averaged 424.27 pounds of butterfat and 7,948 pounds of milk.

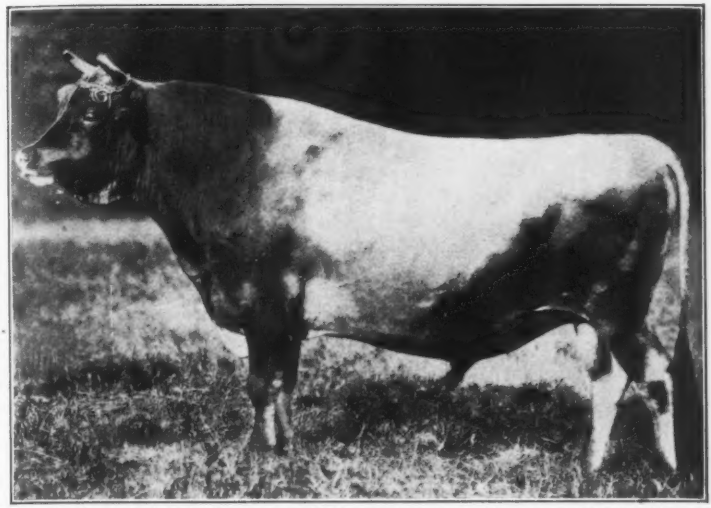


FIGURE 20.—Jersey bull, Dairylike Majesty 198188. One hundred and twenty-six of his daughters are in the Register of Merit.

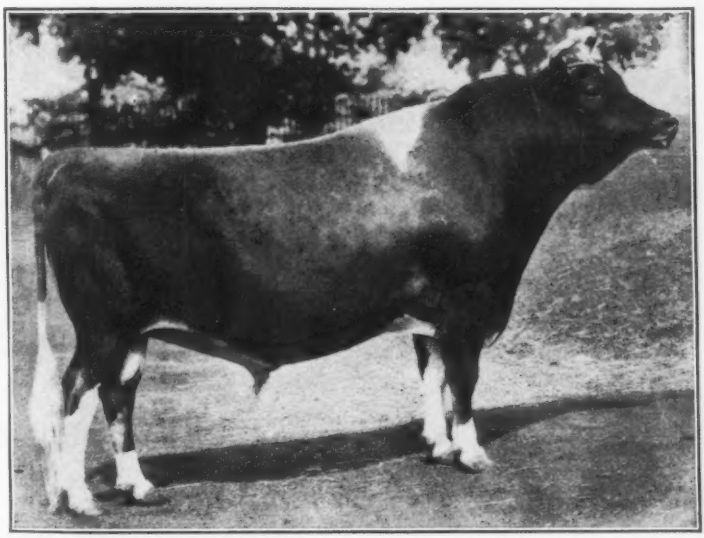


FIGURE 21.—Jersey bull, February Fern's Noble 308129. Grand champion, National Dairy Show, 1930.

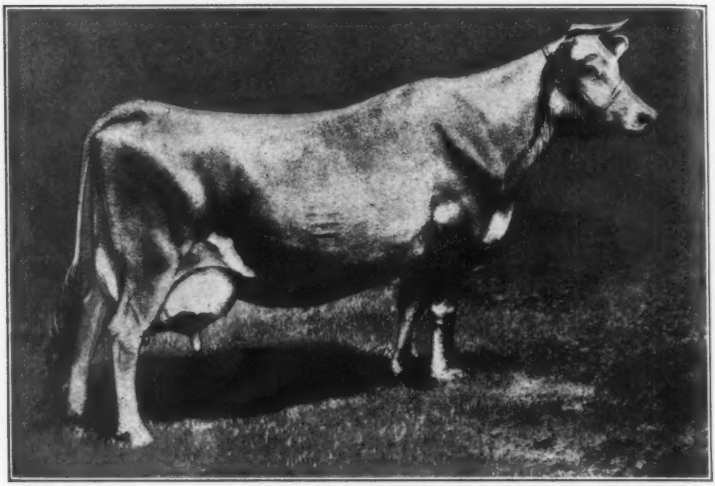


FIGURE 22.—Jersey cow, Abagail of Hillside 457241. Highest milk producer of the breed in the United States.

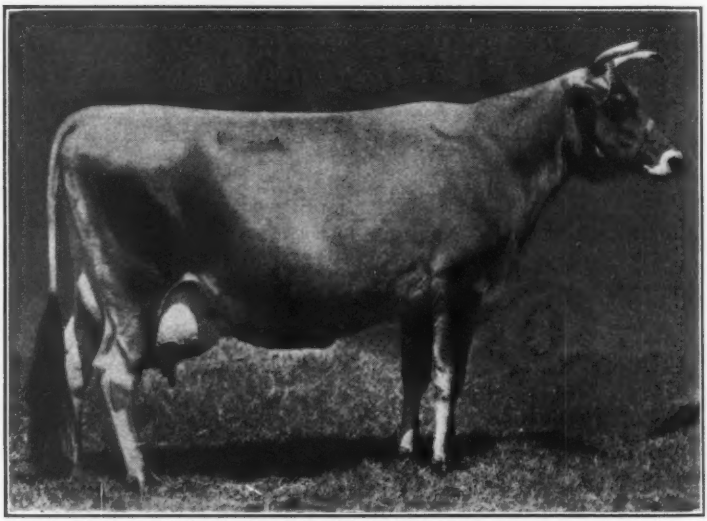


FIGURE 23.—Jersey cow, Stockwell's April Pogis of H. P. 694544. Highest butterfat producer of the breed in the United States.

In the Herd Improvement Registry, 423 Jersey herds had completed yearly records up to January 1, 1935. These herds included 10,124 cows, with an average yearly production of 346 pounds of butterfat and 6,561 pounds of milk.

The 10 highest butterfat and the 10 highest milk producers among the Jerseys, up to January 1, 1935, are listed in table 15.

TABLE 15.—*The 10 highest Jersey yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Stockwell's April Pogis of H. P. 694544	1,218.5	Abagail of Hillside 457241	23,677
Abagail of Hillside 457241	1,197.5	Madeline of Hillside 389336	20,624
Darling's Jolly Lassie 435948	1,141.3	Fauvic's Star 313018	20,616
Groff's Constance 367292	1,130.1	Golden Chief's Lady May 601637	19,922
Prince's Emma of H. S. F. 359390	1,110.0	Fauvic Ruth 385463	19,805
Mayflower's Pogis Surprise 705971	1,105.1	Passport 219742	19,695
California's Rinda's Insie 565559	1,073.4	Red Lady 396118	19,608
Imp. Cancalaise 696129	1,072.4	Sybil's Miss May 477787	19,239
Randleigh Farm Idelia 909924	1,050.3	Lad's Likeness 338246	19,223
Lad's Iota 350672	1,048.1	Eminent's Jimp's Owl 297471	19,099

BULLS

The 10 Jersey sires having the largest number of daughters with official yearly records, up to January 1, 1935, are listed in table 16.

TABLE 16.—*The 10 Jersey sires with largest number of daughters in Register of Merit*

Sire	Daughters	Sire	Daughters
	Number		*Number*
Dairylike Majesty 198188	126	Spermfield Owl's Progress 163331	84
Pogis 99th of Hood Farm 94502	121	Royal Majesty of St. Cloud 89541	83
Sophie 19th's Tormentor 113302	101	Sybil Successor 258883	82
Sybil's Gamboge 174663	88	Hood Farm Pogis 9th 55552	79
Imported Oxford You'll Do 111860	84	Hood Farm Torono 60326	73

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations, the names of their respective secretaries, and their addresses are as follows:

American Guernsey Cattle Club, Karl Musser, secretary, Peterboro, N. H.

American Jersey Cattle Club, L. W. Morley, secretary, 324 West Twenty-third Street, New York, N. Y.

Ayrshire Breeders' Association of the United States of America, C. T. Conklin, secretary, Brandon, Vt.

Brown Swiss Cattle Breeders' Association of America, Ira Inman, secretary, Beloit, Wis.

Dutch Belted Cattle Association of America, P. I. Horning, secretary, Wells, Minn.

Holstein-Friesian Association of America, Houghton Seaverns, secretary, Brattleboro, Vt.

XUM

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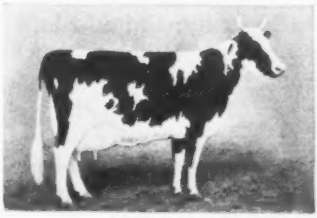
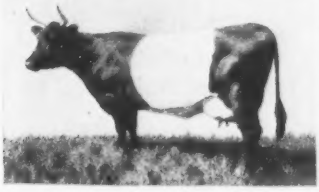
FARMERS' BULLETIN No. 1443 rev. Nov. 1938

DAIRY CATTLE BREEDS

Rev.ed. follows





UNITED STATES DEPARTMENT OF AGRICULTURE

SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers' Bulletin 893, Breeds of Dairy Cattle.

Washington, D. C.

Issued February 1925
Revised November 1938

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *senior dairy husbandman, Administrative Division, Bureau of Dairy Industry*

CONTENTS

	Page		Page
Dairy cattle in the United States	1	Dutch Belted	18
What is a dairy breed?	4	Guernsey	20
Registration	5	Holstein-Friesian	25
Which breed to select	6	Jersey	29
The score card	7	The American Dairy Cattle Club	33
Ayrshire	8	Breed associations	34
Brown Swiss	13		

DAIRY CATTLE IN THE UNITED STATES

According to estimates made by the United States Department of Agriculture, about 36,000,000 cattle of all ages were being kept for dairy purposes in the United States in 1938. About two-thirds of these, or approximately 24,000,000, were cattle of six dairy breeds, namely: Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. Of the other one-third, about 8,000,000, or 22 percent, were cattle of dual-purpose and beef breeds used for milk production, and about 4,000,000, or 11 percent, were cattle of no particular breed.

Of the 24,000,000 cattle of the dairy breeds, about 4.5 percent, or 1,088,000, are registered. Much of the improvement in our dairy cattle will continue to come from increasing the number of good registered animals and through the use of good registered bulls in grade dairy herds. The development of good grade dairy herds from herds of no particular breed can be accomplished in a few generations by the use of good registered bulls. For these reasons, registered dairy cattle have played in the past and will play in the future a very important role in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Table 1 shows the estimated total number of grades and registered dairy cattle of each dairy breed in the United States and different parts of the country on January 1, 1932. The relative percentages of each breed in the different sections are based on information obtained from the Bureau of Agricultural Economics from an inquiry sent to over 21,000 crop correspondents in February 1932. Grades were listed with the breeds to which they seemed to belong. The number of cattle of each breed on January 1, 1932, was determined from the total cattle kept for dairy purposes in each section and the relative numbers that were of these breeds in the herds of crop correspondents. There were about 23,700,000 dairy cattle in the United States (including possibly 650,000 dairy bulls in use) at that time.

TABLE 1.—*Approximate number and distribution of cattle of dairy breeds, including registered and grades, by sections, in the United States, Jan. 1, 1932*

Breed	Cattle of dairy breeds	Relative distribution of breeds						
		United States	North Atlantic States	North Central States, west	North Central States, east	South Atlantic States	South Central States	Western States
	Number	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Ayrshire	317,000	1.4	4.0	0.6	1.4	0.4	0.3	1.0
Brown Swiss	248,000	1.0	.8	2.0	1.3	.3	.4	.5
Guernsey	3,709,000	15.7	21.6	20.6	13.5	19.6	2.4	17.5
Holstein	9,465,000	39.9	56.5	46.7	53.7	12.7	9.2	47.0
Jersey	9,961,000	42.0	17.1	30.1	30.1	67.0	87.7	33.8
Total	23,700,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The numbers and percentages for distribution of each breed in 1938 are believed to be not far from those shown in table 1 for 1932. There have been some minor changes, but little information is available as to the direction of these changes.

Dutch Belted cattle, though comparatively few in number, are widely distributed in the United States.

Of the large numbers of cattle of dual-purpose breeds kept for milk, cattle of the Shorthorn breed are the most numerous, and are widely distributed in all States. Those breeds most commonly used for milk are indicated in table 4.

Table 2 shows the number of registered cattle of the dairy breeds on January 1, 1930, as enumerated by the census, by sections and by States.

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1930, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds[1]
United States	1,280,161	48,236	25,734	200,721	649,739	354,939	792
Geographic divisions:							
New England	87,889	12,256	467	19,397	32,567	23,089	113
Middle Atlantic	281,054	20,584	2,177	46,916	180,095	31,220	62
East North Central	401,332	5,295	13,947	66,368	233,768	81,804	150
West North Central	211,884	5,106	7,984	30,046	123,610	44,869	269
South Atlantic	72,467	1,536	206	20,577	21,200	28,885	63
East South Central	57,704	166	22	1,441	4,446	51,628	1
West South Central	66,877	316	102	1,755	7,171	57,458	75
Mountain	36,489	1,007	229	4,030	21,878	9,328	17
Pacific	64,465	1,970	600	10,191	25,004	26,658	42
New England:							
Maine	16,021	1,096	89	4,003	4,613	6,134	86
New Hampshire	11,179	2,115	55	2,555	5,153	1,301	.....
Vermont	25,716	4,065	145	3,468	7,986	10,045	7
Massachusetts	19,552	2,753	105	5,491	8,187	3,013	3
Rhode Island	3,182	429	13	796	1,555	388	1
Connecticut	12,239	1,798	60	3,084	5,073	2,208	16
Middle Atlantic:							
New York	155,626	14,881	1,230	19,390	106,311	13,799	15
New Jersey	17,075	316	164	3,925	10,232	2,397	41
Pennsylvania	108,353	5,387	783	23,601	63,552	15,024	6
East North Central:							
Ohio	82,102	1,441	940	12,440	35,027	32,253	1
Indiana	35,751	535	553	6,429	12,103	16,094	37
Illinois	59,615	625	4,474	5,241	29,060	10,179	36
Michigan	71,750	777	1,547	11,736	41,786	15,844	60
Wisconsin	152,114	1,917	6,433	30,522	105,792	7,434	16

FIGURE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1930, by States and sections, as shown by the census*—Continued

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds
West North Central:							
Minnesota	78,650	1,066	3,176	15,147	54,072	5,141	48
Iowa	43,702	733	3,414	6,569	26,211	6,711	64
Missouri	31,548	160	144	2,289	7,875	21,030	50
North Dakota	9,354	118	339	1,454	6,950	493	----------
South Dakota	9,141	312	488	1,203	6,516	595	27
Nebraska	11,933	420	146	1,240	7,865	2,250	12
Kansas	27,556	2,297	277	2,144	14,121	8,649	68
South Atlantic:							
Delaware	2,896	86	----------	877	1,545	388	----------
Maryland	19,294	661	57	6,093	9,553	2,885	45
District of Columbia	234	----------	----------	1	231	2	----------
Virginia	14,150	82	35	5,288	5,756	2,989	----------
West Virginia	6,863	293	107	1,112	1,668	3,682	1
North Carolina	11,788	362	1	3,393	978	7,054	----------
South Carolina	5,969	----------	----------	2,430	763	2,776	----------
Georgia	8,432	2	3	947	388	7,092	----------
Florida	2,841	50	3	436	318	2,017	17
East South Central:							
Kentucky	16,903	32	20	616	2,953	13,281	1
Tennessee	18,869	34	2	210	894	17,729	----------
Alabama	6,764	23	----------	212	143	6,386	----------
Mississippi	15,168	77	----------	403	456	14,232	----------
West South Central:							
Arkansas	6,532	5	5	264	514	5,737	7
Louisiana	4,234	1	----------	123	431	3,679	----------
Oklahoma	16,130	233	92	867	3,770	11,167	1
Texas	39,981	77	5	501	2,456	36,875	67
Mountain:							
Montana	4,551	111	125	653	3,167	495	----------
Idaho	9,557	194	27	1,577	4,842	2,917	----------
Wyoming	1,596	1	11	194	1,127	262	1
Colorado	8,155	403	42	764	5,669	1,277	----------
New Mexico	1,322	13	----------	54	463	777	15
Arizona	3,427	166	15	276	1,956	1,014	----------
Utah	6,848	35	----------	485	3,901	2,427	----------
Nevada	1,033	84	9	27	753	159	1
Pacific:							
Washington	19,597	691	140	3,960	8,125	6,681	----------
Oregon	21,755	328	261	3,190	3,577	14,360	39
California	23,113	951	199	3,041	13,302	5,617	3

[1] Including animals reported as registered, but with breed not specified.

Table 3 gives the average production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that had official yearly records to Jan. 1, 1938*

Breed	Advanced register or register of merit				Herd-improvement test			
	Records of cows and heifers	Milk	Butterfat		Records of cows and heifers	Milk	Butterfat	
			Quantity	Test			Quantity	Test
	Number	*Pounds*	*Pounds*	*Percent*	*Number*	*Pounds*	*Pounds*	*Percent*
Ayrshire	[1] 9,022	10,446	416	4.0	20,571	8,351	338	4.0
Brown Swiss	939	13,643	548	4.0	984	8,577	352	4.1
Guernsey	49,212	10,095	502	5.0	5,229	8,629	425	4.9
Holstein-Friesian	[2] 56,007	16,005	546	3.4	[3] 52,369	11,101	380	3.4
Jersey	56,789	8,556	459	5.36	27,364	6,797	359	5.3

[1] Includes 1,952 305-day records.
[2] Includes 15,354 10-month records.
[3] Up to Oct. 1, 1937.

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Table 4 shows the breeds of milk cows in different sections of the United States and in herds of various sizes. The relative numbers in each of the different-sized herds are calculated according to the distribution shown for 1932, when an inventory was taken on February 1 of the herds of 21,554 crop correspondents scattered throughout the United States, to show the approximate distribution of cows kept for dairy purposes by breeds, at that time. The relative number of cows kept for dairy purposes, both grade and registered, combined, is expressed as a percentage for each of the breeds, in each group of States and in each of the different sized herds.

TABLE 4.—*Breeds of cows kept for dairy purposes in different parts of the United States and in herds of various sizes, Jan. 1, 1932* [1]

Region and size of herd	Cows kept for dairy purposes [2]	Distribution, by breeds						
		Holstein	Jersey	Guernsey	Ayrshire and Brown Swiss	Shorthorn and Red Polled	Hereford, Aberdeen, Angus, and others	Mixed breeding
Region:	*Number*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
North Atlantic	3,213,000	51.1	15.5	19.5	4.3	2.6	0.4	6.6
East North Central	5,880,000	36.0	23.2	15.9	2.0	12.7	1.9	8.3
West North Central	7,028,000	23.9	13.4	6.0	1.2	36.2	7.8	11.5
South Atlantic	1,825,000	8.9	47.1	13.8	.5	6.1	4.7	18.9
South Central	4,741,000	6.3	60.0	1.7	.5	9.3	4.2	18.0
Western	2,209,000	35.5	24.2	12.7	1.1	16.2	3.4	8.9
United States	24,896,000	26.8	28.2	10.5	1.6	17.2	4.2	11.6
Number of milk cows per farm:								
1	1,454,000	8.4	60.0	7.0	1.1	5.5	1.7	16.3
2 or 3	3,399,000	11.5	48.8	7.7	.9	12.2	3.8	17.1
4 or 5	3,346,000	16.4	34.0	9.1	1.1	19.0	4.0	15.4
6 to 10	6,969,000	24.4	22.8	9.8	1.5	23.6	4.9	12.8
11 to 20	6,413,000	37.3	16.8	12.4	2.1	19.3	4.1	8.0
21 to 30	1,873,000	46.8	20.3	13.1	2.2	9.8	3.5	4.3
31 to 50	864,000	46.8	25.3	12.9	2.6	4.7	1.9	5.8
Over 50	578,000	39.8	26.8	17.2	2.6	6.6	2.2	5.0
Total	24,896,000	26.8	28.2	10.5	1.7	17.2	4.1	11.6

[1] Prepared by John B. Shepard, Bureau of Agricultural Economics.
[2] Estimated number of cows and heifers 2 years old and over kept for milk Jan. 1, 1932.

The breed data in table 4 above are believed to be approximately representative of conditions in 1938. Little information is available as to the relative increases or decreases within or among the breeds, but the total numbers of cows kept for dairy purposes in 1938 in different regions, as shown in table 5, do not differ greatly from those in 1932. The total number in the West North Central States, however, had decreased to about 6,593,000, which was about 435,000 less than in 1932; and the number in the South had increased to 6,923,000, which was about 357,000 more than in 1932. The total number in the United States was about the same for each of these years.

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds repre-

sent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of registered dairy cows to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a registered dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

TABLE 5.—*Number of cows kept for dairy purposes, Jan. 1, 1932–38*

Region	Number of cows and heifers 2 years old and over kept for milk, Jan. 1[1]						
	1932	1933	1934	1935	1936	1937	1938
North Atlantic	3, 213, 000	3, 260, 000	3, 256, 000	3, 173, 000	3, 175, 000	3, 219, 000	3, 249, 000
East North Central	5, 880, 000	6, 045, 000	6, 247, 000	6, 151, 000	6, 027, 000	5, 994, 999	5, 968, 000
West North Central	7, 028, 000	7, 351, 000	7, 763, 000	7, 214, 000	6, 982, 000	6, 718, 000	6, 593, 000
South Atlantic	1, 825, 000	1, 921, 000	1, 982, 000	2, 008, 000	1, 979, 000	1, 945, 000	1, 918, 000
South Central	4, 741, 000	5, 081, 000	5, 342, 000	5, 264, 000	5, 086, 000	4, 982, 000	5, 005, 000
Western	2, 209, 000	2, 278, 000	2, 341, 000	2, 259, 000	2, 190, 000	2, 183, 000	2, 169, 000
Total, United States	24, 896, 000	25, 936, 000	26, 931, 000	26, 069, 000	25, 429, 000	25, 041, 000	24, 902, 000

[1] Bureau of Agricultural Economics, U. S. Department of Agriculture.

A registered dairy animal is one that has met the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a registered animal with a scrub, or from mating animals not registered but having near ancestors that are registered. The offspring of a registered animal and a grade is also a grade, and through progressive use of registered bulls such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either registered or grade animals; but to prevent misunderstanding it is desirable to precede the breed name with the word "registered" or "grade."

In addition to the breeds of dairy cattle mentioned, cows of other breeds, including both the beef and dual-purpose, are kept for dairy purposes. These are discussed in Farmers' Bulletin 612, Breeds of Beef Cattle.

REGISTRATION

To be eligible for registration a dairy animal must be from a sire and dam which are recorded by name and number in a register of the breed, commonly called the herdbook. The animal must also meet certain color qualifications and other requirements for registration which are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the associations concerned, as listed on page 34.

In addition to the herd register there is for each breed another register in which are entered the names of registered cows that have completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows, and of bulls with tested daughters, is called by various names—Advanced Registry for the Ayrshires and Dutch

Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

The Ayrshire, Brown Swiss, Guernsey, Holstein, and Jersey organizations have each adopted a supplementary register called the Herd Test, or Herd-Improvement Registry. This differs from the Advanced Register and Register of Merit in that breeders must test and report the production of every cow in the herd, rather than only a few selected animals.

If the owner of registered dairy cows is a member of a dairy herd-improvement association, his whole herd will be on test in that organization. Tests made of registered cows in such associations may be used for the Herd-Improvement Test by national dairy breed associations, if the owners of the herds have applied for admission of their herds to the Herd-Improvement Test registers of the breed associations, and the records have been approved by the State agricultural colleges or experiment stations.

Requirements for admission to the breed registers of production (advanced register and herd-test register) and the rules under which the records must be made vary somewhat for the different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question of which breed to choose and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are (1) the breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with registered animals should as a rule select the same breed as his neighbors. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed, buyers are attracted to the locality because of the better chance of getting the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls, and of owning good registered bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with registered cows. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

REGIONAL DIFFERENCES IN BREED PREFERENCES

As shown in table 4, there are sharp differences in the breed of dairy cattle preferred by farmers in the various parts of the country. In general, the percentage of Jerseys averages highest in the South

and in areas where most of the farmers sell cream. Holsteins are most numerous in sections where the milk is sold largely for making cheese or evaporated milk, but there are also large numbers in the large herds kept in the principal market-milk areas. Guernseys are most numerous in the main dairy States, the numbers kept in market-milk areas depending in part on the differential paid for milk of high color and high test. Ayrshires and Brown Swiss are distributed somewhat as are Guernseys, but there are relatively few in the South and West. Shorthorns kept for milk are most numerous where beef production is important, chiefly in the central and western portions of the Corn Belt and in the Great Plains area.

PERSONAL PREFERENCE

In a district where no breed is established, or in sections where several breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally, he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well-liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to better advantage. Obviously, a breeder cannot shift from one breed to another to meet the fluctuations in market demands.

When selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

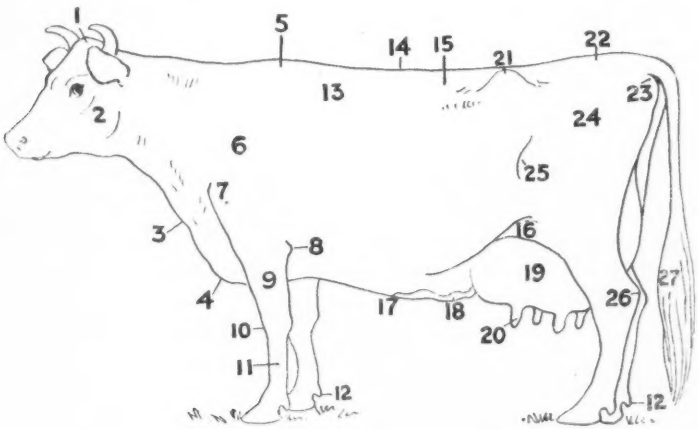
In summing up the matter of which breed to select this point should be kept in mind—there are good cows and poor cows in all breeds and, other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging and also to encourage the forma-

tion of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful, a diagram is given in figure 1 which names and locates the various parts referred to on the score cards.



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIGURE 1.—Diagram of a cow, showing names and locations of parts.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations of Ayrshires into the United States occurred in 1822. Since then Ayrshires have been imported almost every year,

either from Scotland or Canada. Table 1 shows that in 1932 there were in the United States 317,000 animals carrying more or less Ayrshire blood. According to table 2, there were, in 1930, 48,236 registered Ayrshires in the United States. By January 1, 1938, it is estimated that the number of registered Ayrshires had increased to 72,454.[1] Ayrshires are scattered through practically all the States, though by far the largest numbers are in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The

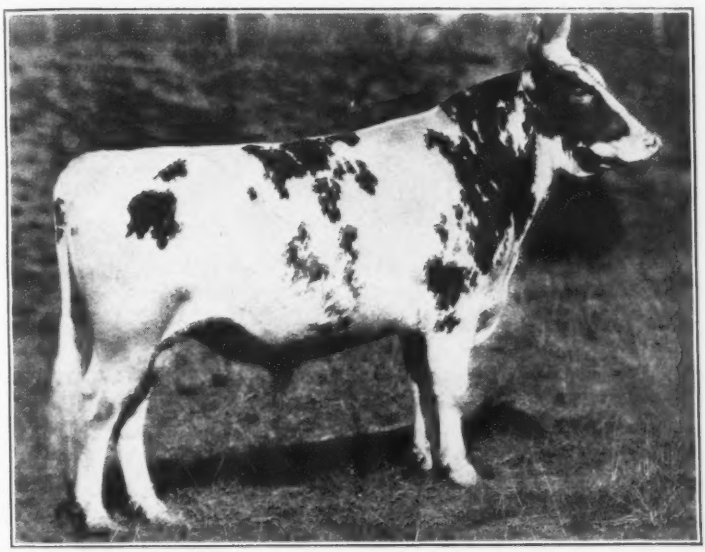


FIGURE 2.—Ayrshire bull, Willoxton Satisfaction 42680. Grand Champion, National Dairy Show, 1930.

calves weight from 60 to 80 pounds at birth. The weight of mature bulls (fig. 2) varies from 1,500 to 2,000 pounds; with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even; the teats medium in size and well-placed (figs. 3 and 4).

[1] This figure has been calculated from yearly registrations, the allowances for deaths being estimated and 1930 census figures used as a check.

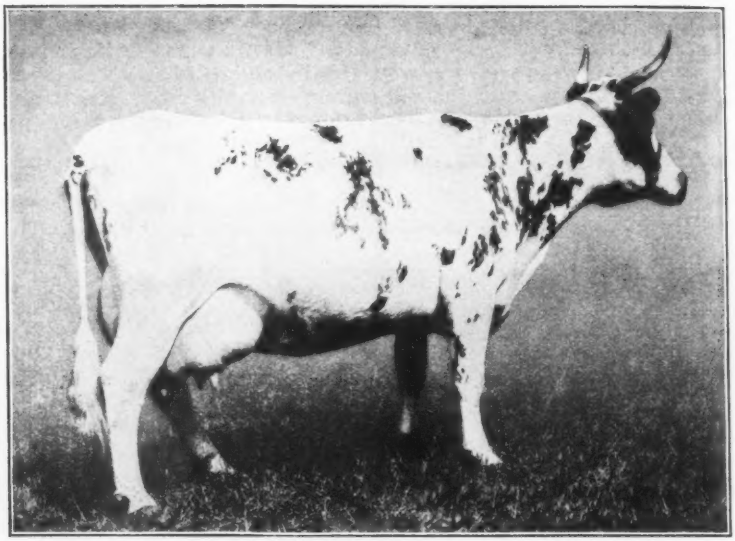


FIGURE 3.—Ayrshire cow, Lily of Willowmoor 22269. Champion butterfat producer of the breed in the United States.

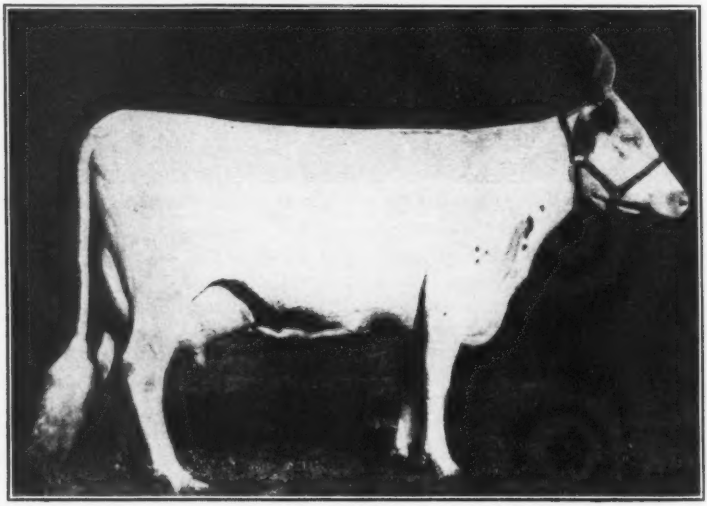


FIGURE 4.—Ayrshire cow, Garclaugh May Mischief 27944. Champion milk producer of the breed in the United States.

SCALE OF POINTS FOR AYRSHIRE COW OR HEIFER

ANATOMY		*Perfect score*
Head		9
Forehead, reasonably broad between the eyes and slightly dished	1	
Face, of medium length, clean cut, feminine; the bridge of the nose straight to nostrils	1	
Muzzle, broad and strong, with large open nostrils	2	
Jaws, wide at the base, well muscled, and strong	1½	
Eyes, moderately large, placid, full, and bright	1½	
Ears, medium size, fine, and carried alertly	½	
Horns, small at base, not coarse nor too long; inclining upwards	1½	
Neck, medium length, smoothly blending with shoulders and throat, showing feminine refinement		2
Shoulders, long, sloping and tapering from the base to the top of the shoulder blades; neatly and firmly attached to the body wall; tops of the blades not extending to the top of chine		5
Chest, full, and wide between and back of forearms; brisket light and refined		5
Chine, straight, strong, open jointed, narrow at the top, nicely blending into shoulders and a well-sprung rib		3
Crops, full, level with shoulders		4
Barrel, medium length, deep, but strongly held up; rib, well sprung; bones long, flat, and wide apart		10
Loin, broad, strong, and level with hips		4
Rump or pelvic area, wide, long, and roomy; top line extending level from loin to and including tail head		12
Hips, wide, with points rather sharply defined and level with back line		
Pin bones, wide apart and nearly level with hip bones; well defined, not overlaid with fat		
Thurls, broad and set slightly below line from hip points to pin bones		
Tail head, level with back line, neatly molded, and showing no evidence of roughness		
Tail, long and fine, with full switch		1
Flank, deep, slightly arched, and refined		1
Thighs, deep, straight and trim when viewed from the side. Flat and broad on sides. Twist or inside of thighs well cut out for udder development, with escutcheon well defined and carried high		2
Legs and feet, widely and squarely set under body; clean flat bone, front legs straight; hind legs nearly straight when viewed from rear; hocks and pasterns neatly and firmly molded; feet round, with plenty of depth at heels		8
Hide and hair, mellow, elastic hide of medium thickness; hair fine and soft		4
Mammary system		30
Size and shape of udder, broad, level, capacious, extending well forward and high behind; quarters even and of uniform size; floor of udder should be reasonably level and not deeply cut up between the quarters	10	
Attachment of udder, attached well forward with a neat and firm junction at body wall; carried wide and high behind, no evidence of breaking of tissues supporting front quarters nor of dropping of floor of udder	6	
Texture of udder, fine, soft, and pliable, with light skin	4	
Size, shape, and placement of teats, convenient size, symmetrical and nearly uniform, each hanging perpendicularly under the quarter; funnel-shaped teats objectionable	5	
Veining and milk wells, mammary veins large, long, tortuous, branching, and entering large or numerous milk wells; small veins clearly defined on udder	5	
Perfect anatomy score		100

BREED CHARACTERISTICS

In addition to the foregoing anatomy score of 100 points, which is applicable to all dairy cows, it has been deemed expedient to consider the following factors covering desirable Ayrshire breed characteristics.

To use this supplementary schedule, score the number of points in which the animal is deficient in each of the following breed characteristics, and deduct from the foregoing anatomy score the total number of points in which the animal is deficient.

Style and quality, alert but docile; having an impressive carriage; graceful walk; and, above all, displaying evidence of feminine refinement and outstanding dairy character	7
Symmetry and balance, a symmetrical balancing of all the parts and the proper proportioning of the various parts to each other	7
Size and weight, mature cows should weight from 1,100 to 1,400 pounds, depending on period of lactation	4
Color, red of any shade, mahogany, brown, or these with white, or white, each color clearly defined. Distinctive red and white markings preferable; black or brindle markings strongly objectionable	2
Total deductions possible	20

PRODUCTION

Ayrshire milk contains about 4 percent butterfat, which is about the average for all the dairy breeds. The 9,022 yearly records completed by 6,806 Ayrshire cows and heifers in the Advanced Registry up to January 1, 1938, include 1,952 305-day records, and average 10,446 pounds of milk and 416 pounds of butterfat per cow.

Under Herd-Test rules 268 Ayrshire herds completed 20,571 yearly individual cow records up to January 1, 1938, with an average per cow of 8,351 pounds of milk and 338 pounds of butterfat with an average test of 4 percent.

The 10 highest butterfat and the 10 highest milk producers among the Ayrshires, up to January 1, 1938, are listed in table 6.

TABLE 6.—*The 10 highest Ayrshire yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.6	Garclaugh May Mischief 27944	25,329
Vi's Bountiful Lassie 58096	923.2	Vi's Bountiful Lassie 58096	24,556
Auchenbrain Brown Kate 4th 27943	917.6	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.9	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.3	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.1	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.2	Nancy Whitehall 47810	22,074
Jean Armour 3d 32219	859.6	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.8	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.4	Willowmoor May Mischief 2d A 34173	21,161

BULLS

Table 7 lists 10 registered Ayrshire bulls that were proved in dairy herd-improvement associations and selected from tabulations made by the Bureau of Dairy Industry between November 1, 1935, and April 1, 1938, and reported in United States Department of Agriculture

Miscellaneous Publication 277 and Miscellaneous Publication 315.[2] For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had five or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds.

(3) The dams of his daughters must have had an average butterfat production of 300 or more pounds.

Records of the daughters and their dams are converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records is taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 7.—*Ten registered Ayrshire sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
Penshurst Leto Lad 44041	5	446	57
Lady's Leto of Sylvan View 43336	9	440	46
Bay State Perry 39515	5	438	52
Captain Clip of Sand Hill 36656	15	424	73
Reginald of Elmcrest 39949	6	423	93
King Henry Star 35805	11	420	110
Silverton 35607	5	414	28
Penstate's Sir Robert 34004	7	407	37
Penshurst Cherub 41663	16	404	31
Schuylkill Champion 38925	5	390	72

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where the breed has been developed during many centuries. It is probably one of the oldest in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. Several importations have been made since but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of foot-and-mouth disease in Europe. Table 1 shows that, in 1932, there were in the United States 248,000 animals carrying more or less Brown Swiss blood. According to table 2, there were, in 1930, 25,734 registered Brown Swiss animals in the

[2] The total number of proved sires reported in these publications is 2,292. Of this number, 93 are Ayrshires, 52 Brown Swiss, 431 Guernseys, 1,246 Holsteins, 464 Jerseys, and 6 Shorthorns.

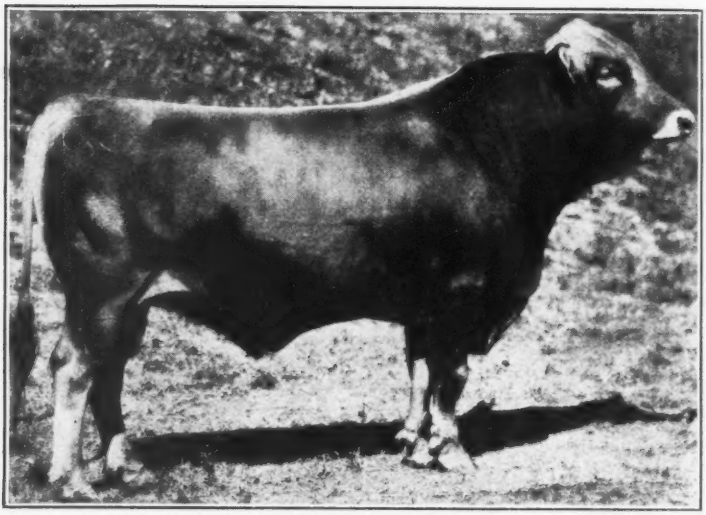


FIGURE 5.—Brown Swiss bull, March Molly 3d's Master 14350. Grand Champion, National Dairy Show, 1930.

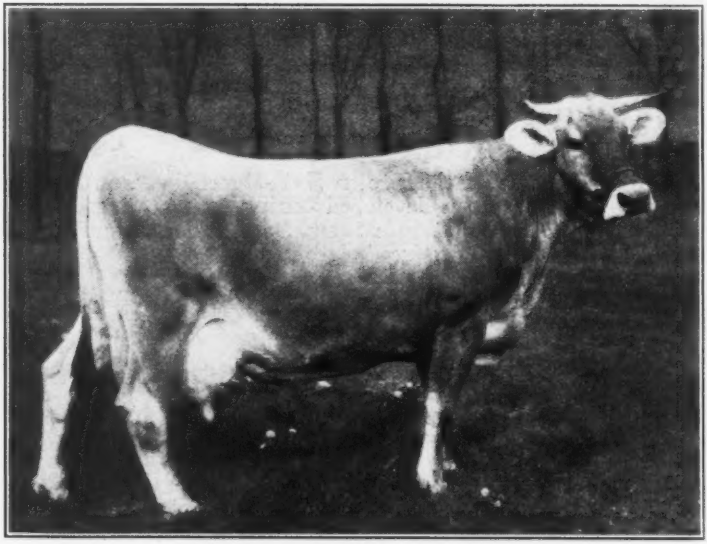


FIGURE 6.—Brown Swiss cow, Illini Nellie 26578. Champion milk and butterfat producer of the breed in the United States.

United States. By January 1, 1935, it is estimated that the number of registered Brown Swiss had increased to 40,689.[3] Brown Swiss are scattered in 37 States, the largest numbers being in Wisconsin, Illinois, Iowa, Minnesota, New York, Michigan, Ohio, and Pennsylvania.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are sturdy in appearance, with well-developed brisket and dewlap, and with the body well-covered with flesh (figs. 5, 6, and 7). The calves weight from 65 to 90 pounds at birth. The heifers are slow in maturing. When full-grown, the cows weigh from 1,100 to 1,500 pounds, averaging about 1,250 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

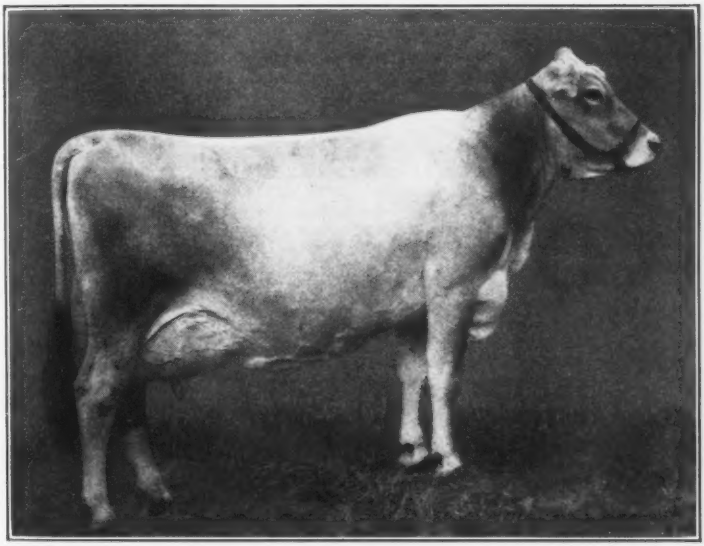


FIGURE 7.—Brown Swiss cow, Jane of Vernon 29496. Grand champion, Dairy Cattle Congress, 1934.

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually of a lighter shade than that on the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

[3] See footnote 1, p. 9.

SCALE OF POINTS FOR BROWN SWISS COW OR HEIFER

		Perfect score
Head		10
Size and form, medium and rather long	2	
Face, dished, narrow between horns, and wide between eyes	2	
Ears, fringed inside with light-colored hair, medium size, and carried alert	1	
Muzzle, large and square, with mouth surrounded by mealy-colored band; nose and tongue black	2	
Eyes, full and bright	2	
Horns, short, not too heavy, regularly set, with black tips	1	
Neck, of good length, throat clean, neatly joined to head and shoulders, moderately thin at the withers		5
Forequarters		9
Shoulders, not too heavy and smoothly blending into body	4	
Chest, deep and full between and back of forelegs	4	
Brisket, medium	1	
Body		13
Back, level to setting of tail and broad across the loin	6	
Ribs, long and broad, wide apart, and well sprung	3	
Barrel, long, deep, and well-rounded	4	
Hindquarters		10
Hips, wide; pin bones high and wide apart; rump long and level from hip bones to tail setting	6	
Thighs, flat and wide apart, giving ample room for udder	2	
Tail, slender, well set on, with good switch	2	
Legs, of medium length and straightness, with good hoofs		2
Hide		5
Medium thickness, mellow and elastic	3	
Color, shades from dark to light brown; at some seasons of the year gray; white splashes on underline of belly are objectionable but do not disqualify; dark smoky skin objectionable; hair between horns usually of lighter shade than that on body	2	
Udder		32
Size, long, wide, deep, but not pendulous or fleshy	6	
Attachment, firmly attached to the body	4	
Veins, udder veins well-developed and plainly visible	2	
Balance, extending well up behind and far forward, quarters even	5	
Sole, nearly level and not indented between teats	2	
Teats, of good uniform length and size, regularly and squarely placed	6	
Texture, mellow, free from meatiness	7	
Mammary veins, large, long, tortuous, elastic, and entering good wells		6
Disposition, quiet but alert		6
General appearance		6
Total		100

PRODUCTION

The Brown Swiss produce milk of average quality as compared with the other breeds of dairy cattle. The 939 cows and heifers that had completed yearly production records and had been admitted to the Register of Production up to January 1, 1938, had an average yearly production of 13,643 pounds of milk and 548.4 pounds of butterfat per cow, with an average butterfat test of 4 percent.

Under Herd-Improvement rules Brown-Swiss herds containing 984 cows completed yearly production records with an average production of 8,576.8 pounds of milk and 352.99 pounds of butterfat.

The 10 highest butterfat and the 10 highest milk producers among the Brown Swiss, up to January 1, 1938, are listed in table 8.

TABLE 8.—*The 10 highest Brown Swiss yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Illini Nellie 26578	1,209.4	Illini Nellie 26578	29,570
Mary's Nell 36395	1,109.7	Mary's Nell 36395	29,487
Swiss Valley Girl 10th 7887	1,106.3	Swiss Valley Girl 10th 7887	27,514
Jane of Vernon 29496	1,075.6	Believe 4245	25,848
June's College Girl 11427	1,062.3	Alice Lee 2nd 8777	24,845
Greenwood Valley Lass 18823	1,037.1	June's College Girl 11427	24,572
Swiss Girl F. C. 13853	1,003.8	Clepe E 14082	24,226
Believe 4245	1,002.6	Miss Mary W. of Vandalia 5th 21277	24,018
Forest Girl of Lake View 11998	971.3	Jane of Vernon 29496	23,569
Clepe E 14082	969.3	Forest Girl of Lake View 11998	23,556

BULLS

Table 9 lists 10 registered Brown Swiss bulls that were proved in dairy herd-improvement associations and selected from tabulations made by the Bureau of Dairy Industry between November 1, 1935, and April 1, 1938, and reported in United States Department of Agriculture Miscellaneous Publication 277 and Miscellaneous Publication 315.[4] For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had five or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 5 or more pounds.

(3) The dams of his daughters must have had an average butterfat production of 300 or more pounds.

Records of the daughters and their dams are converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records is taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 9.—*Ten registered Brown Swiss sires proved in dairy herd-improvement associations*

Name of sire	Daughter dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
June's College Girl's Wallace of Walhalla 24084	7	497	79
Betty's Champion of Spring Valley 25046	9	463	49
Zella C's College Boy 17585	10	460	159
June's College Girl's Grandson (Twin) 18695	12	442	107
June's College Boy 14102	7	405	11
Olympe Lad of Walhalla 14158	6	394	13
Vogel Boy 1st of Valley Grove 12437	5	394	6
Silver Boy Jim 23014	5	393	9
Jack of Cloverdale Farm 12337	6	384	28
Kenneth of Sedgeley 7722	9	349	36

[4] See footnote 2, p. 13.

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in the Netherlands about two centuries ago. The breed gets its name from both the original home and from the distinctive color marking. It has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle were later placed on a farm, and this seems to be the beginning of Dutch Belted cattle in the United States. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. It is estimated that on January 1, 1938, there were 500 registered animals of this breed in the United States.

GENERAL CHARACTERISTICS

Dutch Belted cattle (figs. 8 and 9) have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

SCALE OF POINTS FOR DUTCH BELTED COW

	Perfect score
Body color, black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips	8
Head, comparatively long and somewhat dishing; broad between the eyes. Poll, prominent; muzzle, fine; dark tongue	6
Eyes, black, full, and mild. Horns long compared with their diameter	4
Neck, fine and moderately thin and should harmonize in symmetry with the head and shoulders	6

	Perfect score
Shoulders, fine at top, becoming deep and broad as they extend backward and downward, with a low chest	4
Barrel, large and deep, with well-developed abdomen; ribs well-rounded and free from fat	10
Hips, broad, and chine level, with full loin	10
Rump, high, long, and broad	6
Hind quarters, long and deep, rear line incurving; tail long, slim, tapering to a full switch	8
Legs, short, clean, standing well apart	3
Udder, large, well-developed front and rear; teats of convenient size and apart; mammary veins large, long, and crooked, entering large orifices	20
Escutcheon	2
Hair, fine and soft; skin of moderate thickness of a rich, dark, or yellow color	3
Quiet disposition and free from excessive fat	4
General condition and apparent constitution	6
Perfection	100

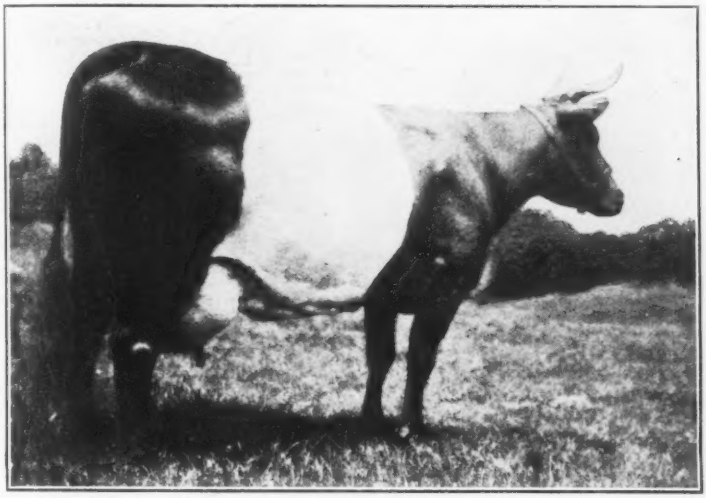


FIGURE 8.—Dutch Belted cow, Loraine of Brunswick 3020. Leading butterfat and milk producer of the breed in the United States.

PRODUCTION

By referring to table 3 it will be seen that, in the percentage of butterfat contained in her milk, the Dutch Belted cow ranks between the Holstein and the Ayrshire. The 76 Dutch Belted cows and heifers that finished yearly official records up to January 1, 1938, show an average production of 10,570 pounds of milk and 417 pounds of butterfat, with an average test of 3.94 percent.

The 10 highest producers of butterfat and the 10 highest producers of milk among Dutch Belted cows, up to January 1, 1938, are listed in table 10.

TABLE 10.—*The 10 highest Dutch Belted yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Loraine of Brunswick 3020	816.5	Loraine of Brunswick 3020	18,211
Marilyn 3232	793.2	Gem of Columbia 2038	17,268
Gloria 3231	780.1	Marilyn 3232	16,878
Sally Ann 3838	736.9	Gloria 3321	16,546
Green River Neritta 3d 3065	691.7	Sally Ann 3838	16,328
Eunice Ann 3423	681.4	Green River Neritta 3d 3065	16,074
Angelina 2641	668.1	Green River Neritta 2d 2958	16,055
Gem of Columbia 2038	633.9	Angelina 2641	16,023
Green River Neritta 2d 2958	582.2	Eunice Ann 3423	14,935
Glenbeulah's Beauty 2172	531.2	Elsie Blossom 2829	14,688

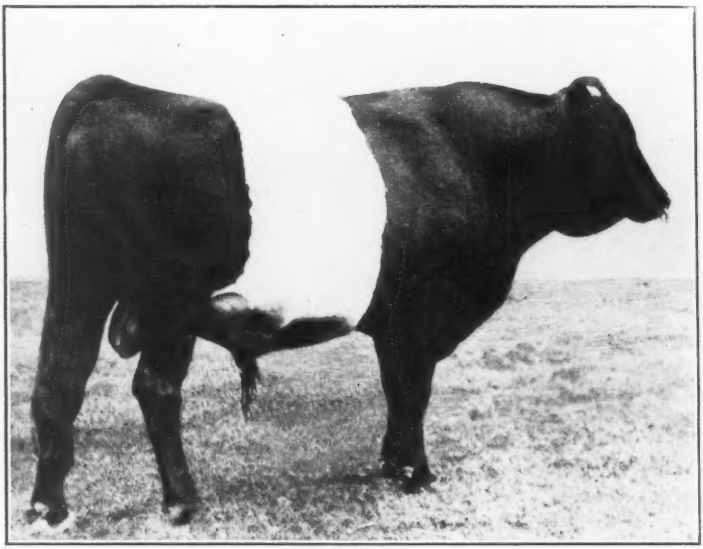


FIGURE 9.—Dutch Belted bull, Keith 934.

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized. The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to the United States were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

Table 1 shows that, in 1932, there were in the United States about 3,709,000 animals carrying more or less Guernsey blood. According to table 2, there were 200,721 registered Guernseys in the United States in 1930. By January 1, 1938, it was estimated that the number of registered Guernseys had increased to 237,430.[5]

GENERAL CHARACTERISTICS

In size the Guernseys (figs. 10, 11, and 12) are about equal to the Ayrshires and slightly smaller than the Brown Swiss. The calves weigh from 55 to 85 pounds at birth and reach maturity early. When mature, the cows weigh from 800 to 1,400 pounds, averaging about 1,050; and the bulls from 1,200 to 2,200 pounds, averaging about 1,600 pounds.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

SCALE OF POINTS FOR GUERNSEY COW

	Perfect score
Style and symmetry, attractive individuality revealing vigor, feminity, and breed character; a harmonious blending and correlation of parts; an active well-balanced walk	5
Head, moderately long, clean-cut, showing feminity and breed character; a lean face; wide mouth and broad muzzle with open nostrils; strong jaws; full bright eyes with gentle expression; forehead broad between the eyes and moderately dishing; bridge of nose straight	5
Horns, yellow, small at base; of medium length; inclining forward; not too spreading	1
Neck, long and thin; clean throat, smoothly blending into shoulders	2
Withers, chine rising above shoulder blades, with open vertebrae	2
Shoulders, shoulder blades set smoothly against chine and chest wall, forming neat junction with the body	2
Chest, wide, and deep at heart with least possible depression back of the shoulders	4
Back, appearing straight from withers to hips	5
Loin, strong, broad, and nearly level laterally; width carried forward to junction with the ribs	3
Hips, wide apart, approximately level with the back; free from excess tissue	2
Rump, long, continuing with level of the back; approximately level between hip bone and pin bones. Pin bones well apart	4
Thurls, wide apart and high	2
Barrel, deep and long, with well-sprung ribs. Individual ribs, long, flat, wide apart, and free from excess tissue	10

[5] See footnote 1, p. 9.

	Perfect score
Thighs, incurving when viewed from side, thin and wide apart when viewed from rear; well cut up between thighs	2
Legs, flat flinty bone, tendons clearly defined; front legs straight; hind legs nearly upright from hock to pastern, set wide apart and nearly straight when viewed from behind. Pastern, strong and springy	2
Skin, loose and pliable, and not thick, with oily feeling; hair, fine and silky	3
Tail, long, tapering with neat, strong, level attachment, neatly set between pin bones; fine bones and hair; nicely balanced switch	2
Udder, uniformly fine in texture; free from meatiness; covered with pliable velvety skin	3
Veins prominent	1
Attachment to body: Strong, long, and wide	4
Extending well forward; extending well up behind	4
Sole: Level between teats	2
Teats: Of even, convenient size; cylindrical in shape; well apart and squarely placed, plumb	3
Mammary veins, long, tortuous, prominent, and branching, with large numerous wells	3
Secretions indicating color of product, indicated by the pigment secretion of skin, which should be a deep yellow inclining toward orange in color; especially discernible in the ear, at the end of bone of tail, around the eyes and nose, on the udder and teats, and at the base of horns; hoofs and horns amber colored	20
Color markings, a shade of fawn with white markings	2
Size, mature cows, about 1,100 pounds in milking condition	2
Total	100

PRODUCTION

Guernsey milk has a high percentage of butterfat and a yellow color.

The 49,212 Guernsey records completed by 39,991 cows in the Advanced Register up to January 1, 1938, average 10,094.7 pounds of milk containing 502.2 pounds of butterfat, or 4.97 percent of butterfat.

Under Herd-Improvement rules Guernsey herds containing 4,561 cows completed 5,299 yearly records up to January 1, 1938, with an average production of 8,629.1 pounds of milk and 425.2 pounds of butterfat.

The 10 highest butterfat and the 10 highest milk producers among the Guernseys, up to January 1, 1938, are shown in table 11.

TABLE 11.—*The 10 highest Guernsey yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Cathedral Rosalie 334299	1,213.1	Murne Cowan 19597	24,008
Noranda's Milkmaid 266975	1,155.8	Cathedral Rosalie 334299	23,714
Anesthesia Faith of Hill Stead 114354	1,112.5	Grassland Zenoria 185315	22,848
Countess Prue 43785	1,103.3	Topsy of Thousand Springs 137339	22,000
Murne Cowan 19597	1,098.2	Pet of LaGrange 2d 48429	21,968
May Rilma 22761	1,073.4	Trixie Alice of Cowham Farm 255436	21,932
Baudy's Daisy of Buena Vista 212457	1,063.4	Imp. Surprise of Brookmead 281287	21,341
Imp. Charmeuse of Ponchez 253818	1,057.8	Peterkin's Beauty of Fairview S. 113341	21,111
Marigold of Elgercon 137240	1,028.3	Katherine's Trixie 100396	21,071
Wolfpen Lilac 221332	1,028.3	Baudy's Daisy of Buena Vista 212457	21,056

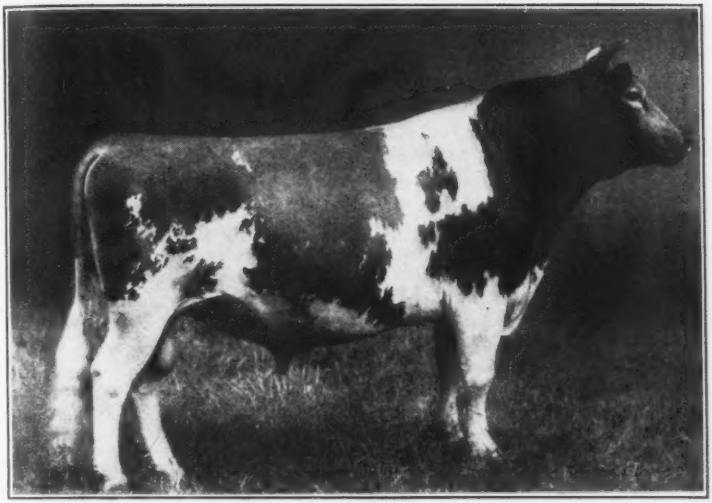


FIGURE 10.—Guernsey bull, Alfalfa Farm Philosopher 203950, Grand Champion, National Dairy Show, 1937.

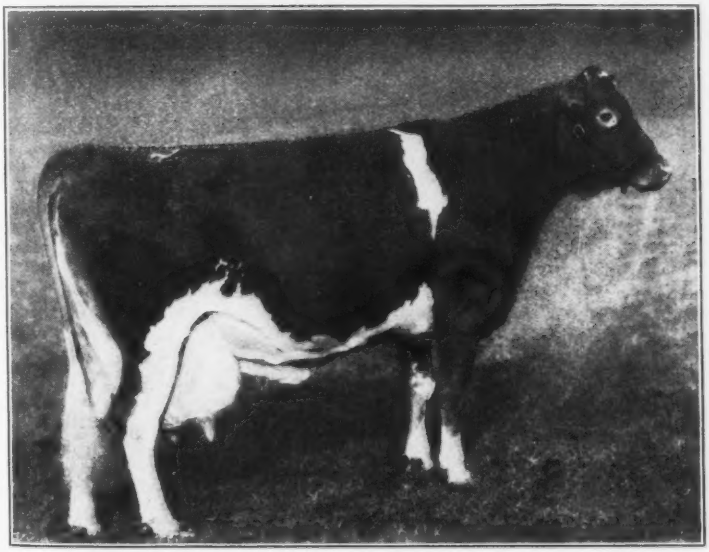


FIGURE 11.—Guernsey cow, Cathedral Rosalie 334299. Champion butterfat producer of the breed in the United States.

BULLS

Table 12 lists 10 registered Guernsey bulls that were proved in dairy herd-improvement associations and selected from tabulations made by the Bureau of Dairy Industry between November 1, 1935, and April 1, 1938, and reported in United States Department of Agriculture Miscellaneous Publication 277 and Miscellaneous Publication 315.[6] For a bull to be considered for inclusion in this table he must have met the following requirements:

(1) He must have had 10 or more unselected daughters with production records, whose dams also had production records;

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds;

(3) The dams of his daughters must have had an average butterfat production of 300 or more pounds.

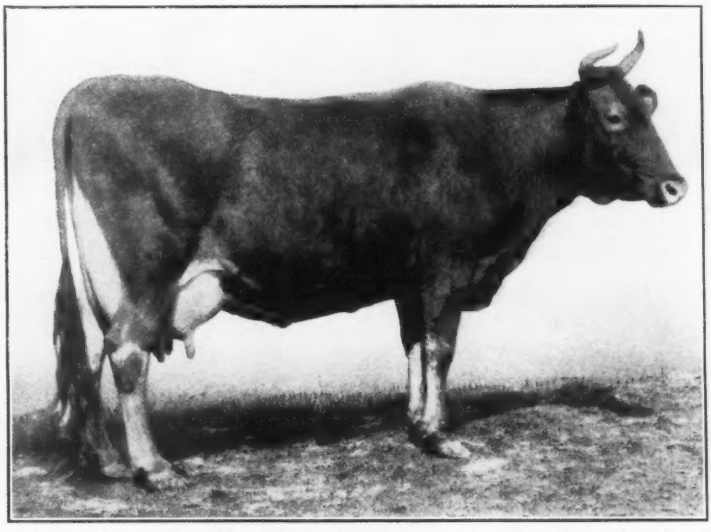


FIGURE 12.—Guernsey cow, Murne Cowan 19597. Champion milk producer of the breed in the United States.

TABLE 12.—*Ten registered Guernsey sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
Florham Superior 70439	29	518	131
Bethany Adventurer 172793	15	461	77
King Strongheart of Elgercon 116270	13	459	39
Fircrest La France's Royal 147632	10	456	75
Tam-o-Shanter Bellboy 184435	11	450	40
Africander Noble of White Farms 114550	12	443	25
Atamannsit Conqueror 86107	22	438	26
Fircrest La France's Prince 140870	15	437	39
Langwater Arrogant 182485	11	436	44
Horton Farm Progress 180880	10	432	114

[6] See footnote 2, p. 13.

Records of the daughters and their dams are converted where necessary to twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records is taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in the northern part of the Netherlands, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word "Holstein" is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

Table 1 shows that in 1932 there were in the United States 9,465,000 animals carrying more or less Holstein blood. According to table 2, there were, in 1930, 649,739 registered Holsteins in the United States. It is estimated that on January 1, 1938, the number of registered Holsteins was 483,826.[7] Holstein cattle are found throughout all the 48 States, though by far the largest number are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These 6 States contain more than 60 percent of the registered Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins (figs. 13, 14, and 15) are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,600 to 2,200, and average about 1,900 pounds; and the mature cows weigh from 1,100 to 1,750, and average about 1,250 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

[7] See footnote 1, p. 9.

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW

	Perfect score
Forehead, broad between the eyes; dishing	2
Face, of medium length, clean-cut, feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws, strong	3
Ears, of medium size; of fine texture; well-carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well-curved inward; not to be discounted if neatly dehorned	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulders	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	4
Chine, straight; strong; broadly developed, with open vertebrae	3
Loins and hips, broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad, with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well-filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	6
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well-attached	20
Teats, well-formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	6
Total	100

PRODUCTION

The Holsteins produce a larger quantity of milk, with a lower butterfat content, than any other dairy breed. The milk is not so highly colored as that from the Guernseys and Jerseys.

The 56,007 Advanced-Register records of Holstein cows and heifers that were completed up to January 1, 1938, include 15,354 10-month records, and show an average yearly production of 16,005 pounds of milk and 546 pounds of butterfat, the average test being 3.4 percent.

In the Herd-Improvement Register, up to October 1, 1937, 2,455 Holstein herds containing 52,369 cows had completed yearly records with an average of 11,101 pounds of milk and 380 pounds of butterfat.

The 10 highest butterfat and the 10 highest milk producers among the Holsteins, up to January 1, 1938, are listed in table 13.

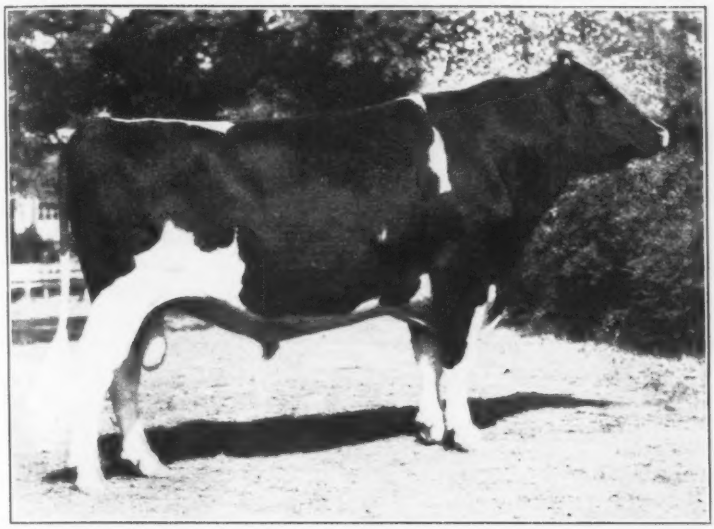


FIGURE 13.—Holstein bull, King Bessie Korndyke Ormsby 14th 667791. Grand Champion, National Dairy Show, 1937.

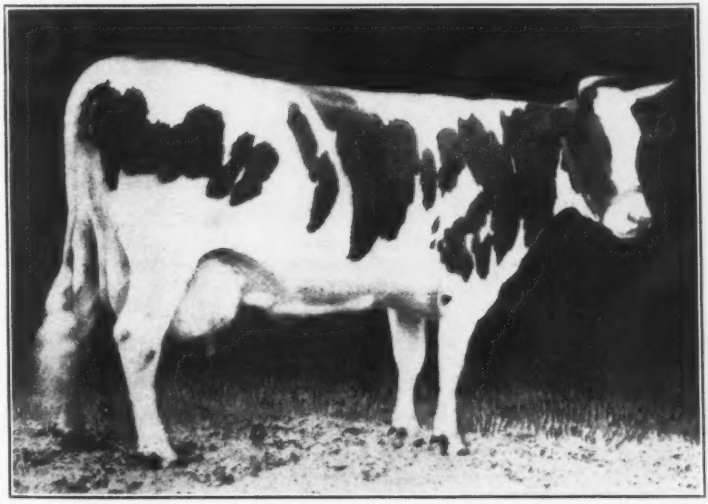


FIGURE 14.—Holstein cow, Segis Pieterje Prospect 221846. This cow had the highest yearly milk record of all the breeds in the United States up to February 11, 1936.

TABLE 13.—*The 10 highest yearly butterfat- and milk-production records of Holstein cows registered in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Carnation Ormsby Butter King 1165152	1,402.0	Carnation Ormsby Butter King 1165152	38,607
DeKol Plus Segis Dixie 295135 [1]	1,349.3	Segis Pietertje Prospect 221846	37,381
Carnation Ormsby Nellie 1326284	1,328.8	Carnation Prospect Veeman 799610	36,859
Calamity Nig of Elmwood Farms 1560447	1,327.9	Helm Veeman Woodcrest 486877	36,218
Carnation Ormsby Segis Beauty 1203395	1,290.4	Carnation Ormsby Nellie 1326284	35,887
Daisy Aaggie Ormsby 3d 571569	1,286.2	Lady Pride Pontiac Lieuwkje 849602	35,627
Carnation Prospect Ormsby Gluck 1042591.	1,225.4	Kolrain Marion Finderne 317396	35,340
		Alcartra Ormsby Canary 1135532	35,272
Femco Johanna Bess Fayne 1073533	1,220.4	Kolrain Finderne Bess 291570	35,085
May Walker Ollie Homestead 300043	1,218.6	Kathleen Triumph 1032712	34,972
Hollywood Lilith Palmyra Abbekerk 400491.	1,206.8		

[1] Canadian cow.

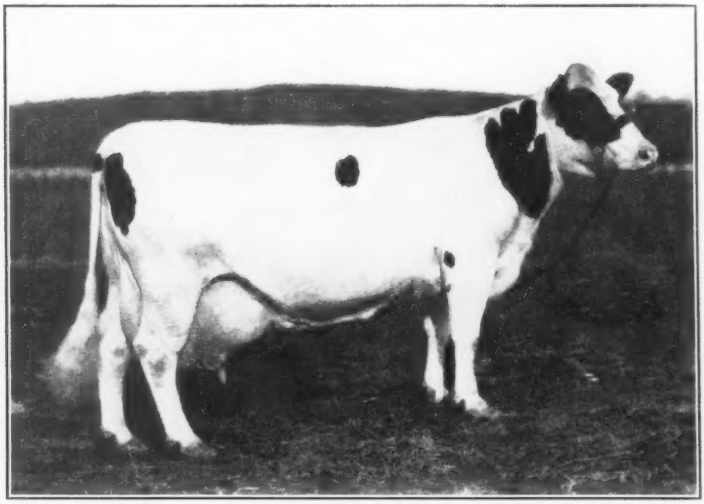


FIGURE 15.—Holstein cow, Carnation Ormsby Butter King 1165152. This cow held the highest yearly milk and butterfat record of all the breeds in the United States up to January 1, 1938.

BULLS

Table 14 lists 10 registered Holstein bulls that were proved in dairy herd-improvement associations and selected from tabulations made by the Bureau of Dairy Industry between November 1, 1935, and April 1, 1938, and reported in United States Department of Agriculture Miscellaneous Publication 277 and Miscellaneous Publication 315.[8] For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 10 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds.

[8] See footnote 2, p. 13.

(3) The dams of his daughters must have had an average butterfat production of 300 or more pounds.

Records of the daughters and their dams are converted where necessary to twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records is taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 14.—*Ten registered Holstein-Friesian sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
King Champion Jannek 18th 460879	17	598	128
Mohofar Colantha Ormsby 617203	11	547	102
Octagon Korndyke De Kol 566341	13	519	185
Korndyke Doxey Clothilde 455345	13	517	104
Nittanyvale Aaggie Loyalsock 486534	39	514	44
Sir Inka May 21st 561789	67	511	32
M M King Ormsby 516202	15	510	39
Duke Pietertje Korndyke Ormsby 15th 354345	11	490	82
King Ormsby of Iodak 576357	13	488	103
Dennington Courtland Denver King 535855	11	488	70

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. Table 1 shows that, in 1932, there were in the United States 9,961,000 animals carrying more or less Jersey blood. According to table 2, in 1930 there were 354,939 registered Jerseys in the United States. It is estimated that on January 1, 1938, the number of registered Jerseys was 252,811.[9]

GENERAL CHARACTERISTICS

The Jersey (figs. 16, 17, and 18) is the smallest in size of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 700 to 1,200 pounds, averaging about 900 pounds, and the bulls weigh from 1,200 to 1,800, averaging about 1,500 pounds.

[9] See footnote 1, p. 9.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead-colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

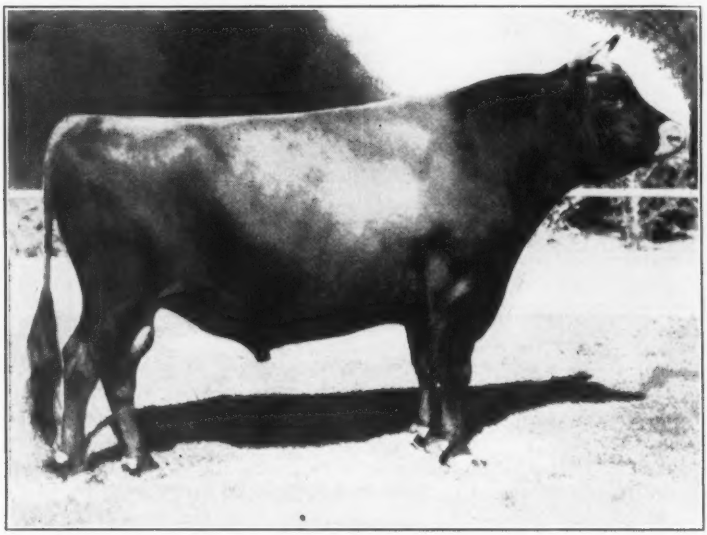


FIGURE 16.—Jersey bull, Foremost Highflyer 347210. Grand Champion, National Dairy Show, 1937.

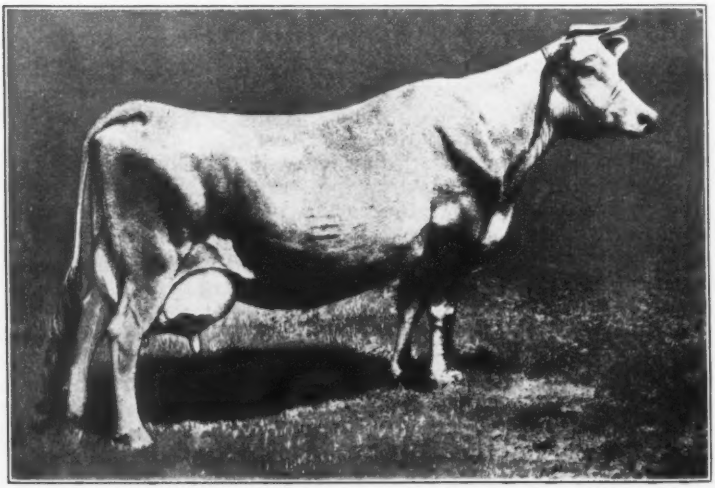


FIGURE 17.—Jersey cow, Abagail of Hillside 457241. Highest milk producer of the breed in the United States.

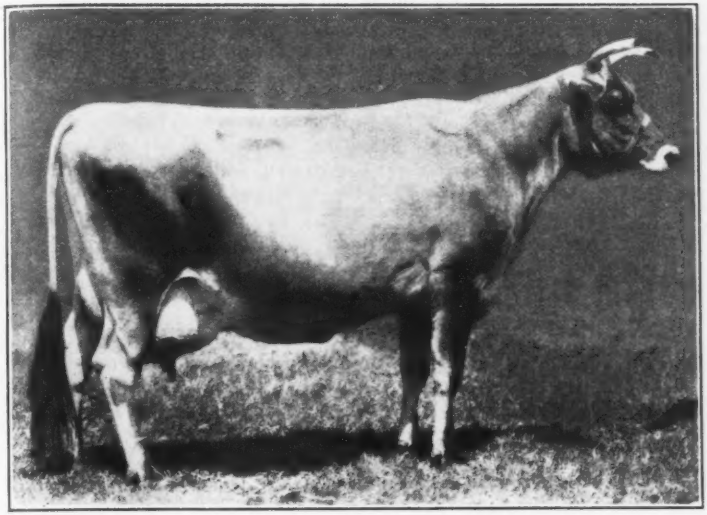


FIGURE 18.—Jersey cow, Stockwell's April Pogis of H. P. 694544. Highest butterfat producer of the breed in the United States.

SCALE OF POINTS FOR JERSEY COW

DAIRY TEMPERAMENT AND CONSTITUTION

	Perfect score
Head	7
Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide-open nostrils and muscular lips; jaw strong	4
Neck thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body	37
Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong, muscular development	10
Back straight and strong, with prominent spinal processes; loins broad and strong	5
Rump long to tail setting, and level from hip bones to rump bones	6
Hip bones high and wide apart	3
Thighs flat and wide apart, giving ample room for udder	3
Legs proportionate to size and of fine quality, well apart, with good feet, and not weaving or crossing in walking	2
Hide loose and mellow	2
Tail thin, long, with good switch, not coarse at setting on	1

MAMMARY DEVELOPMENT

Udder	26
Large size, flexible, and not fleshy	6
Broad, level or spherical, not deeply cut between teats	4
Fore udder full and well-rounded, running well forward of front teats	10
Rear udder well-rounded, and well out and up behind	6

	Perfect score
Teats of good and uniform length and size, regularly and squarely placed	8
Milk veins large; long; tortuous and elastic; entering large and numerous orifices	4
SIZE AND GENERAL APPEARANCE	
Size, mature cows, 800 to 1,000 pounds	4
General appearance, a symmetrical balancing of all the parts, and a proportion of parts to one another, depending on size of animal; with the general appearance of a high-class animal, with capacity for feed and productiveness at pail	10
Total score	100

PRODUCTION

Jersey milk is yellow and high in percentage of butterfat. Up to January 1, 1938, 56,789 Register-of-Merit records had been completed by 43,033 Jersey cows. The average of these records made by cows of all ages in both the 305-day and 365-day divisions was 458.9 pounds of butterfat and 8,556 pounds of milk a year, with an average test of 5.36 percent.

In the Herd-Improvement Registry 1,103 Jersey herds had completed yearly records up to January 1, 1938. These herds included 27,364 cows, with an average yearly production of 359.5 pounds of butterfat and 6,797 pounds of milk with an average test of 5.29 percent.

The 10 highest butterfat and the 10 highest milk producers among the Jerseys, up to January 1, 1938, are listed in table 15.

TABLE 15.—*The 10 highest Jersey yearly butterfat and milk production records in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Stockwell's April Pogis of H. P. 694544	1,218.5	Abagail of Hillside 457241	23,677
Abagail of Hillside 457241	1,197.5	Madeline of Hillside 389336	20,624
Darling's Jolly Lassie 435948	1,141.3	Fauvic's Star 313018	20,616
Groff's Constance 367292	1,130.1	Golden Chief's Lady May 601637	19,922
Prince's Emma of H. S. F. 359390	1,110.0	Fauvic Ruth 385463	19,805
Mayflower's Pogis Surprise 705971	1,105.1	Passport 219742	19,695
California's Rinda's Insie 565559	1,073.4	Red Lady 396118	19,608
Imp. Cancalaise 696129	1,072.4	Sybil's Miss May 477787	19,239
Sybil's Lucky June 959891	1,055.7	Lad's Likeness 338246	19,223
Oxford Stockwell Victress 731866	1,051.7	Eminent's Jimp's Owl 297471	19,099

BULLS

Table 16 lists 10 registered Jersey bulls that were proved in dairy herd-improvement associations and selected from tabulations made by the Bureau of Dairy Industry between November 1, 1935, and April 1, 1938, and reported in United States Department of Agriculture Miscellaneous Publication 277 and Miscellaneous Publication 315.[10] For a bull to be considered for inclusion in this table, he must have met the following requirements:

[10] See footnote 2, p 13

(1) He must have had 10 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds.

(3) The dams of his daughters must have had an average butterfat production of 300 or more pounds.

Records of the daughters and their dams are converted where necessary to a twice-a-day milking, 6-year old basis, and if a cow had more than one record, the average of all her records is taken.

From the sires that met these conditions, the 10 whose daughters average the highest in butterfat production were selected.

TABLE 16.—*Ten registered Jersey sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
Smoky's Pogis 318391	10	592	50
Gapon's Countess' Lad 159969	19	496	36
Owl's Superior Duke 314894	13	491	26
Sophie 19th's Victor 13th 207415	14	481	124
Vixen's Oxford Beau 131638	10	473	82
S.'s T.'s Floss' Duke 216516	13	467	28
Gold Ring's Oxford Lad 293667	12	448	111
Brookside Owl 278757	21	445	111
Interested May's Raleigh 283110	10	445	99
Sybil's Ixia's Majesty 292506	13	439	27

THE AMERICAN DAIRY CATTLE CLUB

The American Dairy Cattle Club was organized under the laws of the State of Illinois and filed its certificate of organization November 14, 1936. According to its bylaws this club was formed to improve the dairy cattle of the United States, regardless of color or previous breeding, through the practice of continuously testing the production of females and testing out bulls, in the herds of both members and nonmembers under rules established by the board of directors.

An animal to be registered must have a production record in the case of females or an index in the case of males, which meets certain requirements, and it must be the progeny of animals listed in the Third Order, or of such an animal and a registered animal, or of registered animals. Third Order animals must be the progeny of animals in the Second Order or higher, and animals in the Second Order must be the progeny of animals in the First Order or higher. There are no ancestry requirements for listing in the First Order.

The minimum production requirements for each order and for registration are given in table 17, and are for 6-year-old cows and for 305-day records on twice-a-day milking.

The bulls must be proved by at least five daughter-dam comparisons and the index calculated on milk and test. The circumstances under which the records are made and reported are also taken into consideration. No animals had been registered up to January 1, 1938.

TABLE 17.—*Production requirements for listings and for registry in American Dairy Cattle Club*

Listing	Cows			Bulls (proved-sire index)		
	Milk production	Butterfat test	Butterfat production	Milk production	Butterfat test	Butterfat production
	Pounds	*Percent*	*Pounds*	*Pounds*	*Percent*	*Pounds*
First Order	4,000			6,000	3.0	
Second Order	6,000	3.0		8,000	3.5	
Third Order	8,000	3.5		10,000	3.7	
Registry	8,000	3.7	425	10,000	3.7	450

BREED ASSOCIATIONS

The various breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations, the names of their respective secretaries, and their addresses are as follows:

American Dairy Cattle Club, Clifford L. Clevenger, Secretary, 11 South LaSalle Street, Chicago, Ill.

American Guernsey Cattle Club, Karl Musser, secretary, Peterboro, N. H.

American Jersey Cattle Club, L. W. Morley, secretary, 324 West Twenty-third Street, New York, N. Y.

Ayrshire Breeders' Association of the United States of America, C. T. Conklin, secretary, Brandon, Vt.

Brown Swiss Cattle Breeders' Association of America, Ira Inman, secretary, Beloit, Wis.

Dutch Belted Cattle Association of America, P. I. Horning, secretary, Wells, Minn.

Holstein-Friesian Association of America, Houghton Seaverns, secretary, Brattleboro, Vt.

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Dairy Cattle Breeds

FARMERS' BULLETIN NO. 1443

U.S. DEPARTMENT OF AGRICULTURE

SEVERAL BREEDS of cattle in the United States are recognized as dairy breeds. Although much alike in what is known as general dairy conformation, these breeds differ to some extent in certain characteristics. What these characteristics are, the factors to consider in selecting a breed, and the history of the origin and development of the breeds are questions of interest to both the beginner and the established breeder of dairy cattle. These are the topics discussed in this bulletin.

This bulletin supersedes Farmers Bulletin 893, Breeds of Dairy Cattle.

Washington, D. C.

Issued February 1925
Revised January 1942

DAIRY CATTLE BREEDS

By AMER B. NYSTROM, *senior dairy husbandman, Administrative Division, Bureau of Dairy Industry*

Contents

	Page		Page
Dairy cattle in the United States	1	Dutch Belted	18
What is a dairy breed?	5	Guernsey	20
Registration	5	Holstein-Friesian	25
Which breed to select	6	Jersey	29
The score card	8	The American Dairy Cattle Club	33
Ayrshire	9	Breed associations	34
Brown Swiss	13		

DAIRY CATTLE IN THE UNITED STATES

ACCORDING to estimates made by the United States Department of Agriculture, about 38,000,000 cattle of all ages were being kept for dairy purposes in the United States on January 1, 1941. About two-thirds of these, or approximately 25,500,000, were cattle of six dairy breeds, namely: Ayrshire, Brown Swiss, Dutch Belted, Guernsey, Holstein-Friesian, and Jersey. Of the other one-third, about 8,400,000, or 22 percent, were cattle of dual-purpose and beef breeds used for milk production, and about 4,100,000, or 11 percent, were cattle of no particular breed.

Of the 25,500,000 cattle of the dairy breeds, about 4.7 percent, or 1,202,000, are registered. Much of the improvement in our dairy cattle will continue to come from increasing the number of good registered animals and through the use of good registered bulls in grade dairy herds. The development of good grade dairy herds from cows of no particular breed can be accomplished in a few generations by the use of good registered dairy bulls. For these reasons, registered dairy cattle have played in the past and will play in the future a very important role in the dairy industry of the Nation.

NUMBER AND DISTRIBUTION OF BREEDS

Table 1 shows the estimated total number of grades and registered dairy cattle of each dairy breed in the United States and different parts of the country on January 1, 1932. The relative percentages of each breed in the different sections are based on information obtained from the Bureau of Agricultural Economics from an inquiry sent to over 21,000 crop correspondents in February 1932. Grades were listed with the breeds to which they seemed to belong. The number of cattle of each breed on January 1, 1932, was determined from the total cattle kept for dairy purposes in each section and the relative numbers that were of these breeds in the herds of crop correspondents. There were about 23,700,000 dairy cattle in the United States (including possibly 650,000 dairy bulls in use) at that time.

XUM

TABLE 1.—*Approximate number and distribution of cattle of dairy breeds, including registered and grades, by sections, in the United States, Jan. 1, 1932*

Breed	Cattle of dairy breeds	Relative distribution of breeds						
		United States	North Atlantic States	North Central States, west	North Central States, east	South Atlantic States	South Central States	Western States
	Number	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Ayrshire	317,000	1.4	4.0	0.6	1.4	0.4	0.3	1.0
Brown Swiss	248,000	1.0	.8	2.0	1.3	.3	.4	.5
Guernsey	3,709,000	15.7	21.6	20.6	13.5	19.6	2.4	17.5
Holstein	9,465,000	39.9	56.5	46.7	53.7	12.7	9.2	47.0
Jersey	9,961,000	42.0	17.1	30.1	30.1	67.0	87.7	33.8
Total	23,700,000	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Between 1932 and 1941 the number of cattle of the major dairy breeds increased some 6 or 7 percent. The exact distribution of this increase between the individual breeds is not known, but the percentage distribution is probably not very different from that in 1932.

Dutch Belted cattle, though comparatively few in number, are widely distributed in the United States.

Of the large numbers of cattle of dual-purpose breeds kept for milk, cattle of the Shorthorn breed are the most numerous, and are widely distributed in all States. Those breeds most commonly used for milk are indicated in table 4.

Table 2 shows the number of registered cattle of the dairy breeds on January 1, 1930, as enumerated by the census, by sections and by States. Similar data are not obtainable from the 1940 census.[1]

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1930, by States and sections, as shown by the census*

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
United States	1,280,161	48,236	25,734	200,721	649,739	354,939	792
Geographic divisions:							
New England	87,889	12,256	467	19,397	32,567	23,089	113
Middle Atlantic	281,054	20,584	2,177	46,916	180,095	31,220	62
East North Central	401,332	5,295	13,947	66,368	233,768	81,804	150
West North Central	211,884	5,106	7,984	30,046	123,610	44,869	269
South Atlantic	72,467	1,536	206	20,577	21,200	28,885	63
East South Central	57,704	166	22	1,441	4,446	51,628	1
West South Central	66,877	316	102	1,755	7,171	57,458	75
Mountain	36,489	1,007	229	4,030	21,878	9,328	17
Pacific	64,465	1,970	600	10,191	25,004	26,658	42
New England:							
Maine	16,021	1,096	89	4,003	4,613	6,134	86
New Hampshire	11,179	2,115	55	2,555	5,153	1,301	
Vermont	25,716	4,065	145	3,468	7,986	10,045	7
Massachusetts	19,552	2,753	105	5,491	8,187	3,013	3
Rhode Island	3,182	429	13	796	1,555	388	1
Connecticut	12,239	1,798	60	3,084	5,073	2,208	16
Middle Atlantic:							
New York	155,626	14,881	1,230	19,390	106,311	13,799	15
New Jersey	17,075	316	164	3,925	10,232	2,397	41
Pennsylvania	108,353	5,387	783	23,601	63,552	15,024	6
East North Central:							
Ohio	82,102	1,441	940	12,440	35,027	32,253	1
Indiana	35,751	535	553	6,429	12,103	16,094	37
Illinois	59,615	625	4,474	5,241	29,060	10,179	36
Michigan	71,750	777	1,547	11,736	41,786	15,844	60
Wisconsin	152,114	1,917	6,433	30,522	105,792	7,434	16

See footnote at end of table.

[1] See table 6 for approximate number of animals registered each year by breeds.

TABLE 2.—*Purebred (registered) cattle of the dairy breeds on farms in 1930, by States and sections, as shown by the census*—Continued

Division and State	Total	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey	All other breeds [1]
West North Central:							
Minnesota	78,650	1,066	3,176	15,147	54,072	5,141	48
Iowa	43,702	733	3,414	6,569	26,211	6,711	64
Missouri	31,548	160	144	2,289	7,875	21,030	50
North Dakota	9,354	118	339	1,454	6,950	493	
South Dakota	9,141	312	488	1,203	6,516	595	27
Nebraska	11,933	420	146	1,240	7,865	2,250	12
Kansas	27,556	2,297	277	2,144	14,121	8,649	68
South Atlantic:							
Delaware	2,896	86		877	1,545	388	
Maryland	19,294	661	57	6,093	9,553	2,885	45
District of Columbia	234			1	231	2	
Virginia	14,150	82	35	5,288	5,756	2,989	
West Virginia	6,863	293	107	1,112	1,668	3,682	1
North Carolina	11,788	362	1	3,393	978	7,054	
South Carolina	5,969			2,430	763	2,776	
Georgia	8,432	2	3	947	388	7,092	
Florida	2,841	50	3	436	318	2,017	17
East South Central:							
Kentucky	16,903	32	20	616	2,953	13,281	1
Tennessee	18,869	34	2	210	894	17,729	
Alabama	6,764	23		212	143	6,386	
Mississippi	15,168	77		403	456	14,232	
West South Central:							
Arkansas	6,532	5	5	264	514	5,737	7
Louisiana	4,234	1		123	431	3,679	
Oklahoma	16,130	233	92	867	3,770	11,167	1
Texas	39,981	77	5	501	2,456	36,875	67
Mountain:							
Montana	4,551	111	125	653	3,167	495	
Idaho	9,557	194	27	1,577	4,842	2,917	
Wyoming	1,596	1	11	194	1,127	262	1
Colorado	8,155	403	42	764	5,669	1,277	
New Mexico	1,322	13		54	463	777	15
Arizona	3,427	166	15	276	1,956	1,014	
Utah	6,848	35		485	3,901	2,427	
Nevada	1,033	84	9	27	753	159	1
Pacific:							
Washington	19,597	691	140	3,960	8,125	6,681	
Oregon	21,755	328	261	3,190	3,577	14,360	39
California	23,113	951	199	3,041	13,302	5,617	3

[1] Including animals reported as registered, but with breed not specified.

Table 3 gives the average production of milk and butterfat of the cows having official yearly records in the breed associations.

TABLE 3.—*Average yearly production of milk and butterfat of the cows of different breeds that had official yearly records to Jan. 1, 1941*

Breeds	Advanced register or register of merit				Herd-improvement register			
	Records of cows and heifers	Milk	Butterfat		Records of cows and heifers	Milk	Butterfat	
			Quantity	Test			Quantity	Test
	Number	*Pounds*	*Pounds*	*Percent*	*Number*	*Pounds*	*Pounds*	*Percent*
Ayrshire	7,129	10,469	416	4.0	30,593	8,488	343	4.0
Brown Swiss	1,195	13,669	552	4.0	[1] 984	8,577	353	4.1
Guernsey	64,976	10,105	502	5.0	11,887	8,591	423	4.9
Holstein-Friesian	45,445	16,737	574	3.4	[2] 83,715	11,208	385	3.4
Jersey	[3] 63,044	8,584	460	5.4	[4] 43,978	6,919	366	5.3

[1] Up to Jan. 1, 1938.
[2] Up to Oct. 1, 1940.
[3] Includes 31,628 305-day records.
[4] Up to Jan. 1, 1940.

XUM

Table 4 shows the breeds of milk cows in different sections of the United States and in herds of various sizes. The relative numbers in each of the different-sized herds are calculated according to the distribution shown for 1932, when an inventory was taken on February 1 of the herds of 21,554 crop correspondents scattered throughout the United States, to show the approximate distribution of cows kept for dairy purposes by breeds, at that time. The relative number of cows kept for dairy purposes, both grade and registered, combined, is expressed as a percentage for each of the breeds, in each group of States and in each of the different-sized herds.

TABLE 4.—*Breeds of cows kept for dairy purposes in different parts of the United States and in herds of various sizes, Jan. 1, 1932* [1]

Region and size of herd	Cows kept for dairy purposes [2]	Distribution, by breeds						
		Holstein	Jersey	Guernsey	Ayrshire and Brown Swiss	Shorthorn and Red Polled	Hereford, Aberdeen Angus, and others	Mixed breeding
Region:	*Number*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
North Atlantic	3,213,000	51.1	15.5	19.5	4.3	2.6	0.4	6.6
East North Central	5,880,000	36.0	23.2	15.9	2.0	12.7	1.9	8.3
West North Central	7,028,000	23.9	13.4	6.0	1.2	36.2	7.8	11.5
South Atlantic	1,825,000	8.9	47.1	13.8	.5	6.1	4.7	18.9
South Central	4,741,000	6.3	60.0	1.7	.5	9.3	4.2	18.0
Western	2,209,000	35.5	24.2	12.7	1.1	16.2	3.4	8.9
United States	24,896,000	26.8	28.2	10.5	1.6	17.2	4.2	11.6
Number of milk cows per farm:								
1	1,454,000	8.4	60.0	7.0	1.1	5.5	1.7	16.3
2 or 3	3,399,000	11.5	48.8	7.7	.9	12.2	3.8	17.1
4 or 5	3,346,000	16.4	34.0	9.1	1.1	19.0	4.0	15.4
6 to 10	6,969,000	24.4	22.8	9.8	1.5	23.6	4.9	12.8
11 to 20	6,413,000	37.3	16.8	12.4	2.1	19.3	4.1	8.0
21 to 30	1,873,000	46.8	20.3	13.1	2.2	9.8	3.5	4.3
31 to 50	864,000	46.8	25.3	12.9	2.6	4.7	1.9	5.8
Over 50	578,000	39.8	26.8	17.2	2.6	6.6	2.2	5.0
Total	24,896,000	26.8	28.2	10.5	1.7	17.2	4.1	11.6

[1] Prepared by John B. Shepard, Agricultural Marketing Service.
[2] Estimated number of cows and heifers 2 years old and over kept for milk Jan. 1, 1932.

The data for breed distribution of cows kept for dairy purposes, shown in table 4, are based on conditions some years ago, but little new information on this subject has become available since that time. While some changes have been apparent in local areas, it is believed that the figures shown for various regions and sizes of herds are reasonably representative of conditions in January 1941.

The numbers of cows kept for dairy purposes at present in each of the various regions are somewhat different from those shown in table 4. Between 1932 and 1941 the number of cows kept for dairy purposes in the United States increased about a million head. The West North Central group of States, where droughts of 1934 and 1936 caused heavy liquidation of dairy herds, was the only region which had fewer cows kept for dairy purposes in 1941 than in 1932. The largest increases were evident in the East North Central and South Central regions of States, in each of which the increase was nearly 400 thousand head. The numbers of cows kept for dairy purposes in each region in recent years are shown in table 5.

TABLE 5.—*Number of cows kept for dairy purposes, Jan. 1, 1935–41*

Region	Number of cows and heifers 2 years old and over kept for milk, Jan. 1 [1]						
	1935	1936	1937	1938	1939	1940	1941
North Atlantic	3,173,000	3,175,000	3,212,000	3,233,000	3,283,000	3,325,000	3,379,000
East North Central	6,151,000	6,027,000	5,994,000	5,976,000	6,045,000	6,138,000	6,278,000
West North Central	7,214,000	6,982,000	6,675,000	6,550,000	6,559,000	6,670,000	6,840,000
South Atlantic	2,008,000	1,979,000	1,945,000	1,920,000	1,965,000	1,983,000	2,008,000
South Central	5,264,000	5,086,000	4,982,000	5,005,000	5,052,000	5,069,000	5,140,000
Western	2,259,000	2,190,000	2,185,000	2,150,000	2,184,000	2,212,000	2,272,000
Total, United States	26,069,000	25,439,000	24,993,000	24,834,000	25,088,000	25,397,000	25,917,000

[1] Agricultural Mafketing Service, U. S. Department of Agriculture.

WHAT IS A DAIRY BREED?

The term "dairy breed" has been accepted by stockmen and investigators as referring to the breeds of cattle that are especially well fitted for the production of milk and butterfat. Such breeds represent the efforts made by breeders of many generations toward improving the milking capacity of certain classes of cows. Because of this fact the inherent tendency of registered dairy cows to produce milk is greater than that of a native or unimproved cow. This inherent capacity is transmitted to the offspring. As a result, the mating of a registered dairy animal with a native or scrub produces a grade animal which is superior to the scrub in production and in other dairy characteristics.

A registered dairy animal is one that has met the requirements for registration laid down by the association for that breed in the United States. A grade is the offspring resulting from mating a registered animal with a scrub, or from mating animals not registered but having near ancestors that are registered. The offspring of a registered animal and a grade is also a grade, and through progressive use of registered bulls such animals become high grade. The names of the breeds (Ayrshire, Brown Swiss, etc.) may refer to either registered or grade animals; but to prevent misunderstanding it is desirable to precede the breed name with the word "registered" or "grade."

In addition to the breeds of dairy cattle mentioned, cows of other breeds, including both the beef and dual-purpose, are kept for dairy purposes. These are discussed in Farmers' Bulletin 1779, Beef-Cattle Breeds for Beef and for Beef and Milk.

REGISTRATION

To be eligible for registration a dairy animal must be from a sire and dam which are recorded by name and number in a register of the breed, commonly called the herdbook. The animal must also meet certain color qualifications and other requirements for registration which are laid down by the various breed organizations. Copies of these rules may be obtained by writing to the associations concerned, as listed on page 34. The number of dairy cattle registered in the United States each year, 1926–1940, by breeds, is shown in table 6.

In addition to the herd register there is for each breed another register in which are entered the names of registered cows that have

completed records meeting specified requirements of milk and butterfat production under definite regulations. Bulls that have a certain number of tested daughters are also recorded in this register. This record of tested cows and of bulls with tested daughters is called by various names—Advanced Registry for the Ayrshires and Dutch Belted, Register of Production for the Brown Swiss, Advanced Register for the Guernseys and Holsteins, and Register of Merit for the Jerseys.

TABLE 6.—*Number of dairy cattle registered each year, by breeds, in the United States, 1926–40*

Year	Ayrshire	Brown Swiss	Guernsey	Holstein-Friesian	Jersey
1926	7, 862	4, 520	34, 690	111, 088	55, 752
1927	8, 401	4, 366	35, 471	109, 963	64, 077
1928	10, 112	5, 476	39, 027	121, 726	73, 909
1929	11, 419	6, 112	40, 949	125, 365	71, 661
1930	10, 209	5, 884	44, 472	105, 143	58, 117
1931	8, 876	5, 419	40, 844	92, 346	48, 473
1932	7, 623	4, 461	35, 779	68, 315	41, 229
1933	8, 972	4, 510	29, 994	98, 523	35, 456
1934	17, 436	9, 112	34, 762	100, 218	38, 578
1935	13, 854	6, 420	45, 037	76, 885	48, 222
1936	14, 107	7, 490	51, 493	77, 942	43, 312
1937	14, 103	8, 566	50, 312	79, 110	43, 682
1938	13, 753	8, 642	47, 534	81, 622	44, 925
1939	15, 198	9, 996	53, 889	85, 508	47, 100
1940	16, 237	10, 473	56, 860	145, 423	48, 527

The Ayrshire, Brown Swiss, Guernsey, Holstein, and Jersey organizations have each adopted a supplementary register called the Herd Test, or Herd-Improvement Registry. This differs from the Advanced Register and Register of Merit in that breeders must test and report the production of every cow in the herd, rather than of only a few selected animals.

If the owner of registered dairy cows is a member of a dairy herd-improvement association, his whole herd will be on test in that organization. Tests made of registered cows in such associations may be used for the Herd-Improvement Test by national dairy breed associations, if the owners of the herds have applied for admission of their herds to the Herd-Improvement Test registers of the breed associations, and the records have been approved by the State agricultural colleges or experiment stations.

Requirements for admission to the breed registers of production (advanced register and herd-improvement register) and the rules under which the records must be made vary somewhat for the different breeds. Detailed information on this point may be obtained from the breed associations concerned.

WHICH BREED TO SELECT

Sometimes too much emphasis is given to the question of which breed to choose and too little to the matter of getting good individuals—that is, those that are well bred and high producers. There are three points, however, that should be considered in deciding which breed to select. These are (1) the breed that predominates in the locality where the new herd is to be located, (2) personal preference, and (3) market requirements for the product.

THE BREED THAT PREDOMINATES

A dairyman just starting with registered animals should as a rule select the same breed as his neighbors. It is difficult for an isolated small breeder to dispose of his surplus stock to advantage, while if there are many breeders with the same breed, buyers are attracted to the locality because of the better chance of getting the desired animals from one or more of the several breeders.

There are other advantages to a dairyman in having the same breed as his neighbor, such as the possibility of exchanging bulls and of owning good registered bulls cooperatively. These advantages are obtained by those having grade herds as well as by those with registered cows. Then there is also the opportunity for taking advantage of special breed sales of surplus stock, and, lastly, the advantage of bringing the community together in other endeavors which usually result where there is but one breed.

REGIONAL DIFFERENCES IN BREED PREFERENCES

As shown in table 4, there are sharp differences in the breed of dairy cattle preferred by farmers in the various parts of the country. In general, the percentage of Jerseys averages highest in the South and in areas where most of the farmers sell cream. Holsteins are most numerous in sections where the milk is sold largely for making cheese or evaporated milk, but there are also large numbers in the large herds kept in the principal market-milk areas. Guernseys are most numerous in the main dairy States, the numbers kept in market-milk areas depending in part on the differential paid for milk of high color and high test. Ayrshires and Brown Swiss are distributed somewhat as are Guernseys, but there are relatively few in the South and West. Shorthorns kept for milk are most numerous where beef production is important, chiefly in the central and western portions of the Corn Belt and in the Great Plains area.

PERSONAL PREFERENCE

In a district where no breed is established, or in sections where several breeds are about equally represented, the prospective breeder must be guided largely by his personal preference. A person usually takes a liking to one breed, for reasons not easily explainable. Naturally, he would take more interest in caring for animals of that breed than for those of a breed that he does not like so well.

Personal preference, however, must not overshadow the matter of quality of individual animals. If high-producing individuals of the breed not so well liked are available at reasonable cost, and individuals of the same quality of the breed well-liked are not available except at a much higher cost, it may be wiser to select the former, for usually a dairyman soon begins to like a breed with which he is doing well.

MARKET REQUIREMENTS FOR PRODUCT

Market requirements for the product should not be overemphasized in selecting the breed. For a time a dairyman may sell his product in a market where low-testing milk has the advantage, while later the conditions may be changed, and a high-testing milk will sell to

421109°—42——2

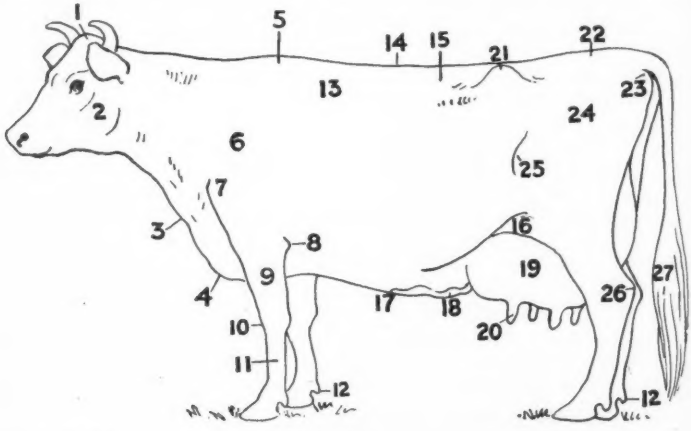
better advantage. Obviously, a breeder cannot shift from one breed to another to meet the fluctuations in market demands.

When one is selling to a city milk plant, however, the price paid for the extra butterfat over the basic test, or deducted from the standard price when the milk is below basic test, may well be considered in selecting the breed. The point here is that sometimes in some whole-milk markets the differential may favor high-testing milk, and at other times or in other markets it may favor low-testing milk.

In summing up the matter of which breed to select, this point should be kept in mind—there are good cows and poor cows in all breeds and, other things being equal, the breeder or dairyman who gets good individuals to begin with will have a good chance for success no matter what breed he selects.

THE SCORE CARD

Each breed association has a scale of points, or score card, for bulls and cows of that breed. The card gives definite values for the various characteristics of conformation, and emphasizes points requiring special attention from breeders. The purpose of the score card is to teach beginners the art of judging and also to encourage the formation



1. POLL	10. KNEE	19. UDDER
2. JAW	11. SHANK	20. TEAT
3. DEWLAP	12. DEW CLAW	21. HIP POINT
4. BRISKET	13. CROP	22. RUMP
5. WITHERS	14. CHINE	23. PIN BONE
6. SHOULDER	15. LOIN	24. THURL
7. POINT OF SHOULDER	16. FLANK	25. STIFLE
8. POINT OF ELBOW	17. MILK WELL	26. HOCK
9. FOREARM	18. MILK VEIN	27. SWITCH

FIGURE 1.—Diagram of a cow, showing names and locations of parts.

of what is considered by breeders, through their associations, as the ideal type. It tends to make the breed uniform in appearance. The scale of points for a cow is given in this bulletin with the description of each breed.

In order to make the score cards more useful, figure 1 is a diagram which names and locates the various parts referred to on the score cards.

AYRSHIRE

ORIGIN AND HISTORY

The Ayrshire breed originated in southwestern Scotland, in the county of Ayr, in the latter part of the eighteenth century. Doubtless cattle from several neighboring countries were used in the formation of the breed, though there is no record of direct foreign importations to the county of Ayr at that time. While this foreign blood probably had a good effect on the ultimate value of the breed, the substantial and efficient development of the breed seems to have come about mostly through subsequent judicious selection and mating.

IMPORTATION AND DISTRIBUTION

The first importations of Ayrshires into the United States occurred in 1822. Since then Ayrshires have been imported almost every year, either from Scotland or Canada. Table 1 shows that in 1932 there were in the United States 317,000 animals carrying more or less Ayrshire blood. According to table 2, there were, in 1930, 48,236 registered Ayrshires in the United States. By January 1, 1941, it is estimated, the number of registered Ayrshires had increased to 81,340.[2] Ayrshires are scattered through practically all the States, though by far the largest numbers are in the Northeastern States.

GENERAL CHARACTERISTICS

The Ayrshire has a well-built, stocky body, not heavily covered with flesh, but giving the appearance of great vigor and vitality. The calves weigh from 60 to 80 pounds at birth. The weight of mature bulls (fig. 2) varies from 1,500 to 2,000 pounds; with an average of about 1,650 pounds, while mature cows range in weight from 850 to 1,250 pounds, and average about 1,050 pounds.

The color varies from almost pure white to nearly all cherry red or brown, with any combination of these colors. Usually the tail is white. The horns are large, and turn gracefully outward, then forward and back, giving a distinctive appearance to the head.

Ayrshire cows are noted for their symmetrical udders, which extend well forward and back, with no tendency to be pendent. The quarters are generally even; the teats medium in size and well-placed (figs. 3 and 4).

[2] This figure has been calculated from yearly registrations, the allowances for deaths being estimated and 1930 census figures used as a check.

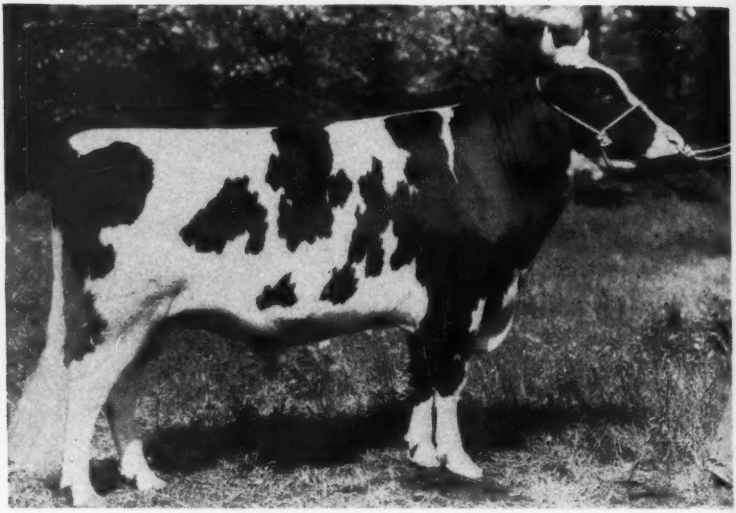


FIGURE 2.—Ayrshire bull, Burnside Barr Adjutant, Grand Champion, National Dairy Show, 1940. (Canadian bull).

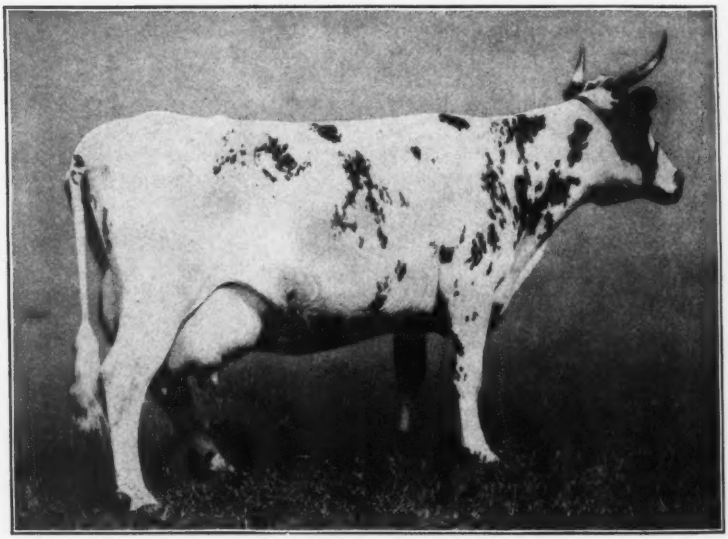


FIGURE 3.—Ayrshire cow, Lily of Willowmoor 22269. Highest butterfat producer of the breed in the United States.

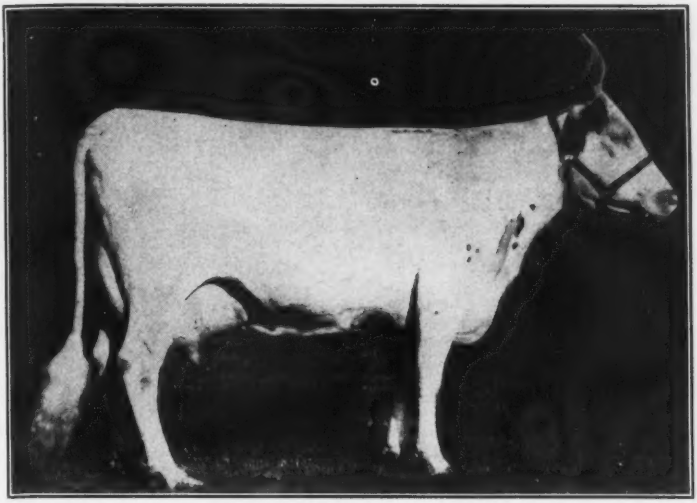


FIGURE 4.—Ayrshire cow, Garclaugh May Mischief 27944. Highest milk producer of the breed in the United States.

SCALE OF POINTS FOR AYRSHIRE COW OR HEIFER

Anatomy		Perfect score
Head		9
Forehead, reasonably broad between the eyes and slightly dished	1	
Face, of medium length, clean cut, feminine; the bridge of the nose straight to nostrils	1	
Muzzle, broad and strong, with large open nostrils	2	
Jaws, wide at the base, well muscled, and strong	1½	
Eyes, moderately large, placid, full, and bright	1½	
Ears, medium size, fine, and carried alertly	½	
Horns, small at base, not coarse nor too long; inclining upwards	1½	
Neck, medium length, smoothly blending with shoulders and throat, showing feminine refinement		2
Shoulders, long, sloping and tapering from the base to the top of the shoulder blades; neatly and firmly attached to the body wall; tops of the blades not extending to the top of chine		5
Chest, full, and wide between and back of forearms; brisket light and refined		5
Chine, straight, strong, open jointed, narrow at the top, nicely blending into shoulders and a well-sprung rib		3
Crops, full, level with shoulders		4
Barrel, medium length, deep, but strongly held up; rib, well sprung; bones long, flat, and wide apart		10
Loin, broad, strong, and level with hips		4
Rump or pelvic area, wide, long, and roomy; top line extending level from loin to and including tail head		12
Hips, wide, with points rather sharply defined and level with back line		
Pin bones, wide apart and nearly level with hip bones; well defined, not overlaid with fat		
Thurls, broad and set slightly below line from hip points to pin bones		
Tail head, level with back line, neatly molded, and showing no evidence of roughness		

SCALE OF POINTS FOR AYRSHIRE COW OR HEIFER—Continued

	Perfect score
Tail, long and fine, with full switch	1
Flank, deep, slightly arched, and refined	1
Thighs, deep, straight and trim when viewed from the side. Flat and broad on sides. Twist or inside of thighs well cut out for udder development, with escutcheon well defined and carried high	2
Legs and feet, widely and squarely set under body; clean flat bone, front legs straight; hind legs nearly straight when viewed from rear; hocks and pasterns neatly and firmly molded; feet round, with plenty of depth at heels	8
Hide and hair, mellow, elastic hide of medium thickness; hair fine and soft	4
Mammary system	30
Size and shape of udder, broad, level, capacious, extending well forward and high behind; quarters even and of uniform size; floor of udder should be reasonably level and not deeply cut up between the quarters	10
Attachment of udder, attached well forward with a neat and firm junction at body wall; carried wide and high behind, no evidence of breaking of tissues supporting front quarters nor of dropping of floor of udder	6
Texture of udder, fine, soft, and pliable, with light skin	4
Size, shape, and placement of teats, convenient size, symmetrical and nearly uniform, each hanging perpendicularly under the quarter; funnel-shaped teats objectionable	5
Veining and milk wells, mammary veins large, long, tortuous, branching, and entering large or numerous milk wells; small veins clearly defined on udder	5
Perfect anatomy score	100

Breed Characteristics

In addition to the foregoing anatomy score of 100 points, which is applicable to all dairy cows, it has been deemed expedient to consider the following factors covering desirable Ayrshire breed characteristics.

To use this supplementary schedule, score the number of points in which the animal is deficient in each of the following breed characteristics, and deduct from the foregoing anatomy score the total number of points in which the animal is deficient.

Style and quality, alert but docile; having an impressive carriage; graceful walk; and, above all, displaying evidence of feminine refinement and outstanding dairy character	7
Symmetry and balance, a symmetrical balancing of all the parts and the proper proportioning of the various parts of each other	7
Size and weight, mature cows should weigh from 1,100 to 1,400 pounds, depending on period of lactation	4
Color, red of any shade, mahogany, brown, or these with white, or white, each color clearly defined. Distinctive red and white markings preferable; black or brindle markings strongly objectionable	2
Total deductions possible	20

PRODUCTION

Ayrshire milk contains about 4 percent butterfat, which is about the average for all the dairy breeds. The 7,129 yearly records completed by Ayrshire cows and heifers in the Advanced Registry up to January 1, 1941, average 10,469 pounds of milk and 416 pounds of butterfat per cow with an average test of 3.98 percent.

Under Herd-Test rules, 30,593 records were completed up to January 1, 1941, averaging 8,488 pounds of milk, 343 pounds of butterfat, and a test of 4.04 percent.

The 10 highest butterfat and the 10 highest milk producers among the Ayrshires, up to January 1, 1941, are listed in table 7.

TABLE 7.—*The 10 highest yearly butterfat and milk producers of the Ayrshire breed in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Lily of Willowmoor 22269	955.6	Garclaugh May Mischief 27944	25,329
Vi's Bountiful Lassie 58096	928.2	Vi's Bountiful Lassie 58096	24,556
Auchenbrain Brown Kate 4th 27943	917.6	Mistress Thistle of South Farm 49818	23,029
Garclaugh May Mischief 27944	894.9	Auchenbrain Brown Kate 4th 27943	23,022
Auchenbrain Yellow Kate 3d 36910	888.3	Lily of Willowmoor 22269	22,596
Agawam Bess Howie 43781	876.1	Garclaugh Spottie 27950	22,589
Harperland Spicy Lass 40652	866.2	Nancy Whitehall 47810	22,074
Jean Armour 3d 32219	859.6	Jean Armour 3d 32219	21,938
Nancy Whitehall 47810	858.8	Bloomer's Queen 39119	21,820
Bloomer's Queen 39119	856.4	Willowmoor May Mischief 2d A 34173	21,161

BULLS

Table 8 lists 10 registered Ayrshire bulls that were proved in dairy herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture between November 1, 1935, and January 1, 1941. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had five or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 8.—*Ten registered Ayrshire sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
Deepwells Conquistadore 43956	14	491	63
Penshurst Leto Lad 44041	6	472	79
Lynes Bonnie Royal 44097	6	438	29
Bay State Perry 39515	5	438	52
Penshurst Gerald 38087	11	434	119
Reginald of Elmcrest 39949	7	431	108
Captain Clip of Sandhill 36656	15	424	73
Strathglass Topsader 43678	9	422	52
King Henry Star 35805	11	420	110
Ash Grove Silk Stocking 36083	5	410	69

BROWN SWISS

ORIGIN AND HISTORY

The original home of the Brown Swiss breed is in Switzerland, where the breed has been developed during many centuries. It is probably one of the oldest in existence, and it is thought that no outside blood has been introduced since records began.

IMPORTATION AND DISTRIBUTION

The first importation of Brown Swiss into the United States was made in Massachusetts in 1869 and another in 1882. Several importations have been made since but only in small numbers. After 1906 there were only a few importations because of regulations due to the prevalence of foot-and-mouth disease in Europe. Table 1 shows that, in 1932, there were in the United States 248,000 animals carrying more or less Brown Swiss blood. According to table 2, there were, in 1930, 25,734 registered Brown Swiss animals in the United States. By January 1, 1941, it is estimated, the number of registered Brown Swiss had increased to 50,805.[3] Brown Swiss are found in nearly all States, the largest numbers being in Wisconsin, Illinois, Iowa, Minnesota, New York, Michigan, Ohio, and Pennsylvania.

GENERAL CHARACTERISTICS

The large frame of the Brown Swiss cattle indicates that they have been developed for service as draft animals as well as for milk. They are sturdy in appearance, with well-developed brisket and dewlap, and with the body well-covered with flesh (figs. 5, 6, and 7). The calves weigh from 65 to 90 pounds at birth. The heifers are slow in

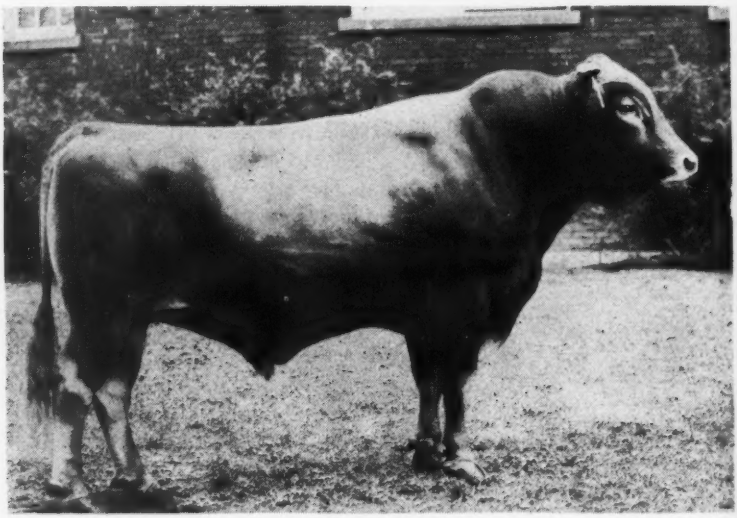


FIGURE 5.—Brown Swiss bull, Lancaster's College Boy 25182. Grand Champion, National Dairy Show, 1940.

maturing. When full-grown, the cows weigh from 1,100 to 1,500 pounds, averaging about 1,300 pounds; and the bulls range in weight from 1,500 to 2,200 pounds, averaging about 1,750 pounds.

[3] See footnote 1, p. 9.

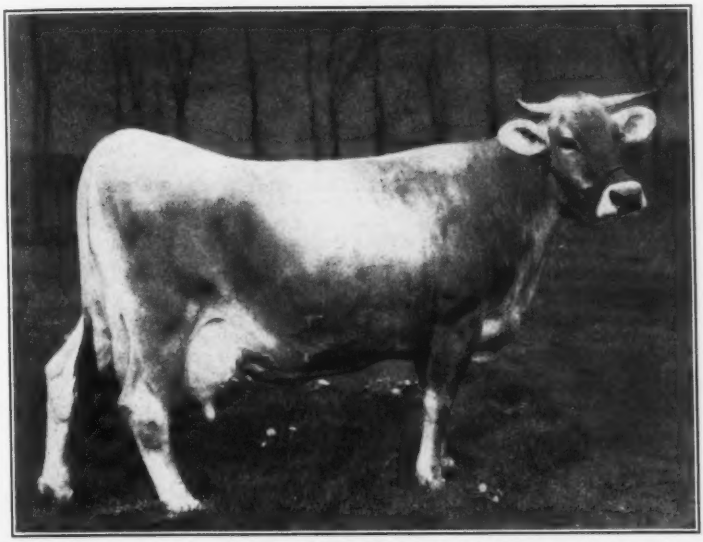


FIGURE 6.—Brown Swiss cow, Illini Nellie 26578. Highest milk and butterfat producer of the breed in the United States.

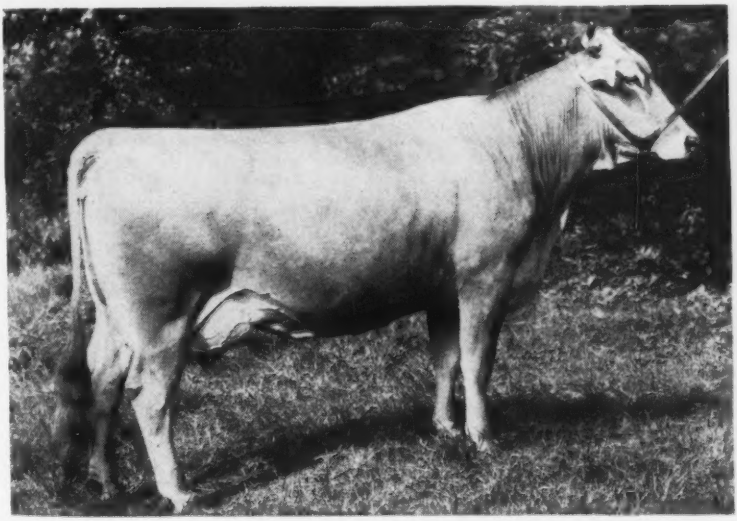


FIGURE 7.—Brown Swiss cow, Jane of Vernon 5th 65386. Grand Champion, National Dairy Show, 1940.

421109°—42——3

The color of the Brown Swiss varies from dark to light brown, and at some seasons of the year approaches gray. There is usually a light stripe of gray along the back. White splashes near the udder are found on some animals, but white splashes on the sides of the body or on the back are objectionable. The hair between the horns is usually of a lighter shade than that on the body. The nose, switch, tongue, and horn tips are always black, and there is usually a light or mealy ring around the muzzle.

SCALE OF POINTS FOR BROWN SWISS COW

	Perfect score
General appearance and breed type	15
Feminine, milky, and vigorous.	
A straight, strong, vigorous, and stylish animal, showing Brown Swiss character, with a symmetrical balancing and harmonious blending of all parts. A cow in milk should give a general impression of milkiness. She should be well grown and rugged without coarseness. (Either undersized or coarse animals undesirable.) Size with quality desired. The minimum weight for a cow in milk should be at least 1,300 pounds.	
Head and neck	10
Muzzle, wide. Nostrils large and open. Jaw strong.	
Face, straight, clean cut, facial lines prominent; full bright eye.	
Forehead, wide, moderately dished, neat at poll.	
Horns, medium size, curving forward, and slightly up. Neatly dehorned animals shall not be penalized.	
Neck, medium length, throat moderately clean, neck should blend smoothly with head and shoulders.	
Body	35
Constitution	10
Shoulders, moderately clean-cut at withers, wide at points of shoulder, but blended smoothly with the body.	
Crops, full. Forerib well sprung, full behind the shoulders.	
Chest, full, deep and wide, the width evidenced by distance between forelegs.	
Condition and health, thrifty and vigorous appearance with a moderate degree of fleshiness. Hide mellow, loose, of medium thickness, neither papery nor hard.	
Capacity	11
Barrel, long, wide and deep. Strongly supported. Ribs well arched and wide apart.	
Topline	12
Back, straight and strong.	
Loin, broad, strong, level.	
Rump, level, long and wide.	
Hook bones far apart.	
Pin bones, wide apart nearly level with hooks.	
Thurls, wide apart, set well up toward the line from hooks to pin bones.	
Tail and tail head. Tail head level with back and loin, neatly set between and smoothly blending with pin bones, tapering to a long slender tail with a full switch.	
Thighs	2
Trim, inside well cut out for a large udder.	
Mammary system	35
Udder	30
Capacity, when fully distended with milk, long, wide, of moderate depth, giving a capacious udder	8
Shape, wide, extending reasonably well forward and closely attached to the body in front; rear attachment high and wide; rear udder extending full width between rather than in front of hind legs; floor reasonably level without marked strictures or clefts; quarters uniformly and symmetrically developed	13

SCALE OF POINTS FOR BROWN SWISS COW—Continued

	Perfect score
Mammary system—Continued.	
Udder—Continued.	
Texture, pliable, free from fat or fibrous tissue; collapsible and spongy in texture when milked out	5
Teats, uniform; of convenient size and length; free from lumps, warts, extra openings and leakage (extra teats objectionable if they interfere with milking); extremely large teats objectionable. Teats squarely placed on udder and hanging plumb	4
Milk veins and wells	5
(Age of cow and stage of lactation to be considered.) Veins on belly large, long, tortuous; veins on udder numerous and clearly defined; milk wells large and numerous.	
Feet and legs	5
Widely and squarely set, hocks and pasterns strong, forelegs straight; feet appearing short, well-rounded with deep heel and level sole; clean flat bone.	
Total	100

NOTE.—Color: The preferred color is a medium brown or silver brown, with a light-colored band around a dark nose.

PRODUCTION

The Brown Swiss produce milk of average quality as compared with the other breeds of dairy cattle. The 1,195 cows and heifers that had completed yearly production records and had been admitted to the Register of Production up to January 1, 1941, had an average yearly production of 13,699 pounds of milk and 552 pounds of butterfat per cow, with an average butterfat test of 4.03 percent.

Under Herd-Improvement rules Brown Swiss herds containing 984 cows that completed yearly production records up to January 1, 1938, had an average production of 8,576.8 pounds of milk and 353 pounds of butterfat per cow, with an average test of 4.1 percent.

The 10 highest butterfat and the 10 highest milk producers among the Brown Swiss, up to January 1, 1941, are listed in table 9.

TABLE 9.—*The 10 highest yearly butterfat and milk producers of the Brown Swiss breed in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Illini Nellie 26578	1,200.4	Illini Nellie 26578	29,570
Mary's Nell 36395	1,109.7	Mary's Nell 36395	29,487
Swiss Valley Girl 10th 7887	1,106.3	Swiss Valley Girl 10th 7887	27,514
Jane of Vernon 29496	1,075.6	Believe 4245	25,848
June's College Girl 11427	1,062.3	Alice Lee 2nd 8777	24,845
Privet of Lee's Hill 36503	1,037.7	Gertrude Baron 38520	24,668
Greenwood Valley Lass 18823	1,037.1	June's College Girl 11427	24,572
Winnie of River Dale 34280	1,029.3	Clepe E. 14082	24,226
Swiss Girl F.C. 13853	1,003.8	Miss Mary W. of Vandalia 5th 21277	24,018
Alice of Lake View 38007	1,003.0	Jane of Vernon 29496	23,569

BULLS

Table 10 lists 10 registered Brown Swiss bulls that were proved in dairy herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture between November 1, 1935, and January

1, 1941. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had five or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 20 or more pounds.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 10.—*Ten registered Brown Swiss sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
June's College Girl's Wallace of Walhalla 24084	7	497	79
Louie of Bowerhome 26539	8	478	61
Bell Boy's Dairyman 31574	8	466	124
Baron of Spring Valley 17460	6	465	38
June's College Girl's Grandson (Twin) 18695	12	442	107
Nevard of Bowerhome 23652	25	432	67
Geno's Carl of Mt. Vernon 25090	11	431	23
Zella C's College Boy 17585	14	425	91
Sam of Melrose's Prospect 30954	5	415	63
Marvel of Crescent View 30630	5	405	50

DUTCH BELTED

ORIGIN AND HISTORY

The Dutch Belted breed originated in the Netherlands about two centuries ago. The breed gets its name from both the original home and from the distinctive color marking. It has probably been developed from the same cattle as the Holstein-Friesian. The early records show that the Dutch Belted were bred by the nobility of Holland, and while the unusual color marking was perhaps the chief basis of selection, the qualities of milk production and dairy refinement were not lost sight of.

IMPORTATION AND DISTRIBUTION

The first importation of Dutch Belted cattle into the United States was made probably in 1838. The first importation of importance, however, was made in 1840 by P. T. Barnum for show purposes. These cattle were later placed on a farm, and this seems to be the beginning of Dutch Belted cattle in the United States. A number were imported from that time on until 1885, and some in 1906 and 1907. Since then no importations have been made on account of the prevalence of foot-and-mouth disease in Europe. No estimate is available for the number of registered animals of this breed now in the United States.

GENERAL CHARACTERISTICS

Dutch Belted cattle (figs. 8 and 9) have the general dairy conformation, which includes fineness of bone and freedom from beefiness. The aim of the breeders of these cattle is to breed animals that have no white other than that of the standard belt around the body. This belt begins back of the shoulder and may extend to the front of the hips but must not be narrower than 6 inches at the narrowest point. There must be no black spots in the belt on females. The width of the belt on each animal tends to be uniform around the body. The remainder of the animal is coal black except that females may have not to exceed 3 inches of white on hind feet above the hoof and males may have not to exceed 2½ inches of white on one hind foot above the hoof.

Calves at birth range in weight from 60 to 90 pounds. Well-developed mature cows weigh from 1,000 to 1,500 pounds, averaging about 1,200 pounds; and bulls from 1,500 to 2,000 pounds, averaging about 1,700 pounds.

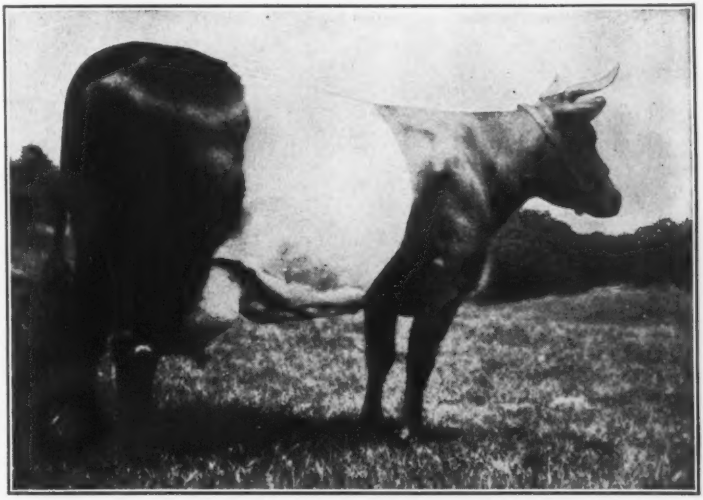


FIGURE 8.—Dutch Belted cow, Loraine of Brunswick 3020. Leading butterfat and milk producer of the breed in the United States.

PRODUCTION

In the percentage of butterfat contained in her milk, the Dutch Belted cow ranks between the Holstein and the Ayrshire. The 76 Dutch Belted cows and heifers that finished yearly official records up to January 1, 1938, show an average production of 10,570 pounds of milk and 417 pounds of butterfat, with an average test of 3.94 percent.

The 10 highest producers of butterfat and the 10 highest producers of milk among Dutch Belted cows, up to January 1, 1938, are listed in table 10.

XUM

TABLE 11.—*The 10 highest yearly butterfat and milk producers of the Dutch Belted breed in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Loraine of Brunswick 3020	816.5	Loraine of Brunswick 3020	18,211
Marilyn 3232	793.2	Gem of Columbia 2038	17,268
Gloria 3231	780.1	Marilyn 3232	16,878
Sally Ann 3838	736.9	Gloria 3231	16,546
Green River Neritta 3d 3065	691.7	Sally Ann 3838	16,328
Eunice Ann 3423	681.4	Green River Neritta 3d 3065	16,074
Angelina 2641	668.1	Green River Neritta 2d 2958	16,055
Gem of Columbia 2038	633.9	Angelina 2641	16,023
Green River Neritta 2d 2958	582.2	Eunice Ann 3423	14,935
Glenbeulah's Beauty 2172	531.2	Elsie Blossom 2829	14,688

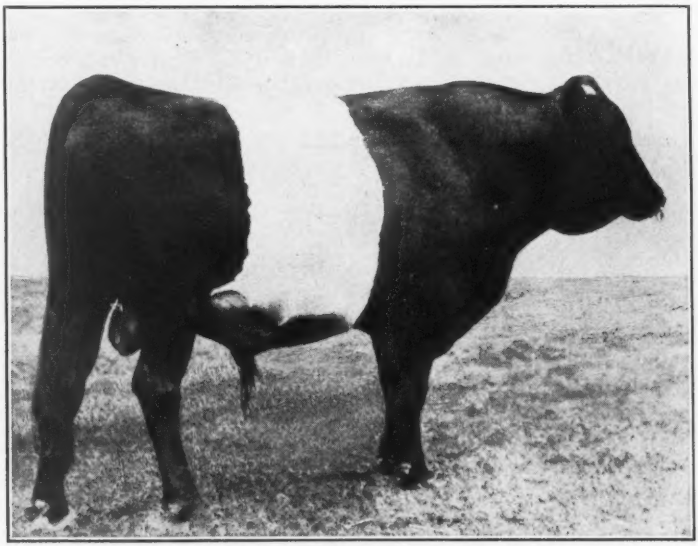


FIGURE 9.—Dutch Belted bull, Keith 934.

GUERNSEY

ORIGIN AND HISTORY

The Guernsey breed originated in the Channel Islands, near the north coast of France. It is thought that this breed has been developed from a cross between the large red and brindle cattle of Normandy and the small red cattle of Brittany, in France. The exact date of origin is unknown, but it was probably in the latter part of the seventeenth century or before.

All the cattle in the Channel Islands were at one time known as Alderneys. After laws had been enacted forbidding the importation of cattle from the Continent or between the islands of Guernsey and Jersey, two distinct breeds came to be recognized The one on the islands of Alderney, Sark, and Guernsey became known as the Guernsey breed and the one on Jersey Island as the Jersey breed.

IMPORTATION AND DISTRIBUTION

The first cattle from the Channel Islands brought to the United States were called Alderneys. They were imported in the latter part of the eighteenth century and may have been either Guernsey or Jersey cattle. The first animals recorded in the herdbook of the American Guernsey Cattle Club were brought over in 1830. A few more were imported in the next two decades, but not until about 1870 were extensive importations made. Since that time importations have been made nearly every year.

Table 1 shows that, in 1932, there were in the United States about 3,709,000 animals carrying more or less Guernsey blood. According to table 2, there were 200,721 registered Guernseys in the United States in 1930. By January 1, 1941, it was estimated, the number of registered Guernseys had increased to 279,314.[5]

GENERAL CHARACTERISTICS

Mature Guernsey cows (figs. 10 and 11) weigh from 900 to 1,400 pounds, averaging about 1,100; and the bulls (fig. 12) weigh from 1,200 to 2,200 pounds, averaging about 1,700 pounds. The calves weigh from 55 to 85 pounds at birth and reach maturity early.

The color of the Guernseys is fawn and white, with fawn predominating. A light cherry red with white is also found. Sometimes white may be entirely lacking except on the legs. The switch is usually white and the tongue light in color. The horns are of moderate size and amber in color. The skin is yellow.

SCALE OF POINTS FOR GUERNSEY COW

	Perfect score
General appearance	24
Attractive individuality, revealing vigor, femininity and Guernsey character with a harmonious blending and correlation of parts.	
Color, a shade of fawn with white markings.	
Size, mature cows in milk, about 1,100 pounds.	
Head, medium in length, clean-cut; broad muzzle with open nostrils; lean, strong jaw; full, bright eyes; forehead broad between the eyes and moderately dished; bridge of nose straight. Ears medium size and carried alertly.	
Horns, small at base, medium length curved forward, yellow in color at base.	
Shoulder blades, set smoothly against chest wall and withers, forming neat junction with the body.	
Back, strong and appearing straight.	
Loin, broad, nearly level.	
Rump, long, wide; top-line level from loin to and including tail head.	
Hips, wide, approximately level laterally with back, free from excess tissue.	
Thurls, wide apart.	
Pin bones, wide apart and slightly lower than hips, well defined.	
Tail head, slightly above and neatly set between pin bones.	
Tail, long and tapering with nicely balanced switch.	
Dairy character	20
Animation, angularity, general openness, and freedom from excess tissue.	
Neck, long and lean, blending smoothly into shoulders and brisket; clean-cut throat and dewlap.	
Withers, well defined and wedge-shaped with the dorsal processes of the vertebrae rising slightly above the shoulder blades.	
Ribs, wide apart.	
Thighs, incurving to flat from the side: wide apart when viewed from the rear, providing sufficient room for the udder and its attachment.	
Skin, of medium thickness, loose and pliable. Hair fine.	

[5] See footnote 1, p. 9.

SCALE OF POINTS FOR GUERNSEY COW—Continued

	Perfect score
Body capacity	20
Relatively large in proportion to size of animal, providing digestive capacity, strength and vigor.	
Barrel, long and deep, strongly supported, ribs wide apart and well sprung; depth and width tending to increase toward rear of barrel.	
Heart girth, large, resulting from long, well-sprung foreribs, wide chest floor between front legs, and fullness at the point of elbow.	
Mammary system	30
A large, strongly attached, well carried, quality udder for heavy production and a long period of usefulness.	
Udder capacity and shape, long, wide, and of moderate depth. Extending well forward, strongly attached, reasonably level floor. Rear attachment, high and wide. Quarters evenly balanced and symmetrical.	
Texture, soft, pliable and elastic.	
Teats, of convenient size, cylindrical in shape, free from obstructions, well apart and squarely placed, plumb.	
Mammary veins, long, tortuous, prominent and branching with large numerous wells. Veins on udder numerous and clearly defined.	
Feet and legs	6
Squarely set, clean-cut and strong.	
Forelegs, straight.	
Hind legs, nearly perpendicular from well defined hock to pastern. When viewed from behind, legs wide apart and nearly straight. Bone, flat and flinty, tendons well defined. Pasterns, strong and springy.	
Feet, appearing short, well rounded with deep heel and level sole.	
Total	100

PRODUCTION

Guernsey milk usually carries a high percentage of butterfat and a yellow color.

The 64,976 Guernsey records completed by 52,333 cows in the Advanced Register up to January 1, 1941, average 10,105 pounds of milk containing 502.3 pounds of butterfat, and 4.97 percent of butterfat.

Under Herd-Improvement rules Guernsey cows completed 11,887 yearly records up to January 1, 1941, with an average production of 8,590.5 pounds of milk and 422.9 pounds of butterfat, with a test of 4.92 percent.

The 10 highest butterfat and the 10 highest milk producers among the Guernseys, up to January 1, 1941, are shown in table 12.

TABLE 12.—*The 10 highest yearly butterfat and milk producers of the Guernsey breed in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Cathedral Rosalie 334299	1,213.1	Murne Cowan 19597	24,008
Noranda's Milkmaid 266975	1,155.8	Cathedral Rosalie 334299	23,714
Anesthesia Faith of Hill Stead 114354	1,112.5	Grassland Zenoria 185315	22,848
Tarbell Farms Royal Lenda 467961	1,109.0	Topsy of Thousand Springs 137339	22,000
Countess Prue 43785	1,103.3	Pet of LaGrange 2d 48429	21,968
Murne Cowan 19597	1,098.2	Trixie Alice of Cowhan Farm 255436	21,932
Superb's Faithful 410579	1,077.4	Imp. Surprise of Brookmead 281287	21,341
May Rilma 22761	1,073.4	Grassland Valtype 356560	21,284
Baudy's Daisy of Buena Vista 212457	1,063.4	Peterkin's Beauty of Fairview S. 113341	21,111
Forges Royal Tilly 405115	1,058.9	Katherine's Trixie 100396	21,071

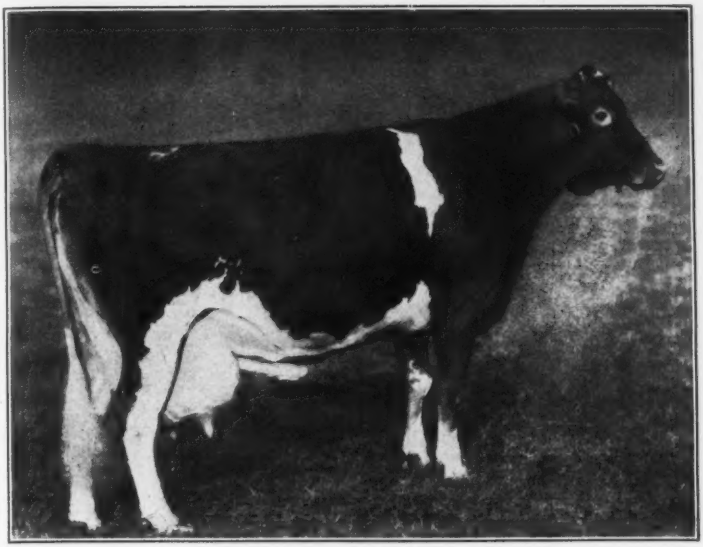


FIGURE 10.—Guernsey cow, Cathedral Rosalie 334299. Highest butterfat producer of the breed in the United States.

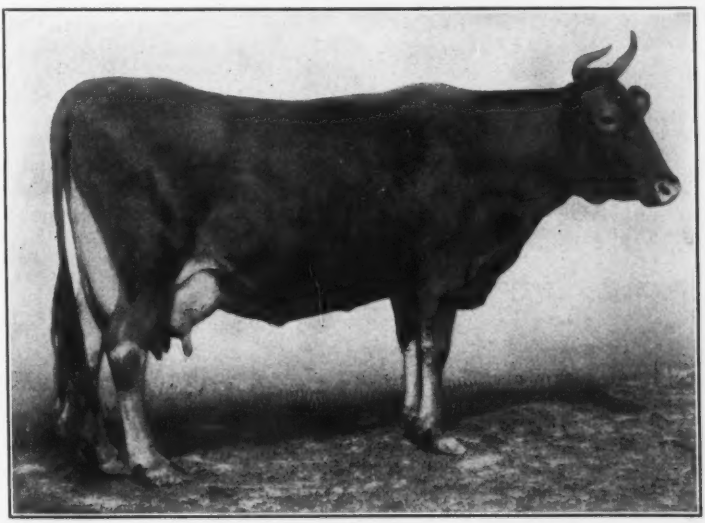


FIGURE 11.—Guernsey cow, Murne Cowan 19597. Highest milk producer of the breed in the United States.

FIGURE 12.—Guernsey bull, Valleywood Valiant Hero 235690. Grand Champion, National Dairy Show, 1940.

BULLS

Table 13 lists 10 registered Guernsey bulls that were proved in dairy herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture between November 1, 1935, and January 1, 1941. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 10 or more unselected daughters with production records, whose dams also had production records;

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds.

Records of the daughters and their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 13.—*Ten registered Guernsey sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
Florham Superior 70439	29	518	131
Sunnyvale Sun 103167	13	495	49
Argilla Catamount 219182	10	492	34
Gayhead's Mohammed 209211	10	486	192
Esperanza of Magnolia Farm 124464	17	482	44
Grassland Sequel Model 183294	11	481	132
Excalibur A Gordon 209639	10	473	90
Sir Gladwood of Bell Boy 199413	10	470	38
Loma Maximus 185999	13	468	74
Bethany Adventurer 172793	17	468	52

HOLSTEIN-FRIESIAN

ORIGIN AND HISTORY

The cattle from which our present Holstein-Friesian breed has descended were developed in the northern part of the Netherlands, especially in the Province of Friesland, and in the neighboring Provinces of northern Germany. The time of their origin as a recognized distinct breed is unknown, but it is probable that they have been selected for their dairy qualities for about 2,000 years.

Before 1885 there were two associations furthering the interests of this breed in the United States. One maintained a Holstein herdbook, and the other a Dutch-Friesian herdbook. In 1885 the two associations were combined into the Holstein-Friesian Association of America, and from that time on only one herd register has been maintained. This is known as the Holstein-Friesian herdbook. While the official name of the breed is Holstein-Friesian, the single word "Holstein" is more common in ordinary use.

IMPORTATION AND DISTRIBUTION

The first importations of Holsteins into the United States were made in 1795, and afterwards a few were brought in from time to time up to 1879, following which heavy importations were made each year until 1887. Thereafter only a few were imported up to 1905, and since then, because of the prevalence of foot-and-mouth disease in Europe, very few have been imported.

Table 1 shows that in 1932 there were in the United States 9,465,000 animals carrying more or less Holstein blood. According to table 2, there were, in 1930, 649,739 registered Holsteins in the United States, It is estimated that on January 1, 1941, the number of registered Holsteins was 529,511.[7] Holstein cattle are found throughout all the 48 States, though by far the largest number are in New York, Wisconsin, Pennsylvania, Ohio, Michigan, and Illinois, in the order named. These 6 States probably contain more than 60 percent of the registered Holstein cattle in the United States.

GENERAL CHARACTERISTICS

The Holsteins (figs. 13, 14, and 15) are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. The calves weigh from 70 to 105 pounds at birth. The mature bulls weigh from 1,700 to 2,200, and average about 2,000 pounds; and the mature cows weigh from 1,200 to 1,750, and average about 1,300 pounds. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid-color animal can be registered.

[7] See footnote 1, p. 9.

XUM

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW

	Perfect score
Forehead, broad between the eyes; dishing	2
Face, of medium length, clean-cut, feminine; the bridge of the nose straight	1
Muzzle, broad, with strong lips; nostrils, large and open; jaws, strong	3
Ears, of medium size; of fine texture; well-carried	1
Eyes, large; full; mild; bright	2
Horns, small; tapering finely toward the tips; set moderately narrow at base; inclining forward; well-curved inward; not to be discounted if neatly dehorned	1
Neck, long; fine and clean at junction with the head; evenly and smoothly joined to shoulders	3
Shoulders, slightly lower than the hips; smooth and rounding over tops; moderately broad and full at sides	3
Crops, full; level with the shoulders	4
Chine, straight; strong; broadly developed, with open vertebrae	3
Loins and hips broad; level or nearly level between the hip bones; level and strong laterally; spreading from chine broadly and nearly level; hip bones fairly prominent	6
Rump, long; broad, with roomy pelvis; nearly level laterally; full above the thurls; carried out straight to tail head	6
Pin bones, wide between; nearly level with hips	2
Thurls, high; broad through	2
Tail head and tail, strong at base without coarseness; the setting well back; tail long, tapering finely to a full switch	2
Chest, deep; wide; well-filled and smooth in the brisket; broad between the forearms; full in the foreflanks	6
Barrel, long; deep; well rounded; strongly and trimly held up	9
Flanks, deep; full	2
Thighs, wide; deep; straight behind; wide and moderately full at the outsides; twist well cut out and filled with development of udder; escutcheon well-defined	2
Mammary veins, large, tortuous, entering large orifices or double extension; with additional developments, such as branches and connections entering numerous orifices	6
Udder, capacious; flexible; quarters even and of uniform texture, filling the space in the rear below the twist, extending well forward; broad and well-attached	20
Teats, well-formed; plumb; of convenient size; properly placed	4
Legs, medium length; clean; nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong, and tapering	4
Hair and hide, hair healthy in appearance; fine and soft; hide of medium thickness; mellow and loose	6
Total	100

PRODUCTION

The Holsteins produce a large quantity of milk with a comparatively low butterfat content.

The 45,445 cows of all ages with yearly records in the Advanced Register completed up to January 1, 1941, produced an average per cow of 16,737.4 pounds of milk and 574.3 pounds of butterfat, with 3.43 percent of butterfat. During the same period there were also 17,323 10-month records completed with an average production of 13,986 pounds of milk and 477.0 pounds of butterfat or 3.41 percent of butterfat.

In the Herd-Improvement Register, up to October 1, 1940, 3,778 Holstein herds containing 83,715 cows had completed yearly records with an average of 11,208 pounds of milk and 385 pounds of butterfat or 3.44 percent of butterfat.

The 10 highest butterfat and the 10 highest milk producers among the Holsteins, up to January 1, 1941, are listed in table 14.

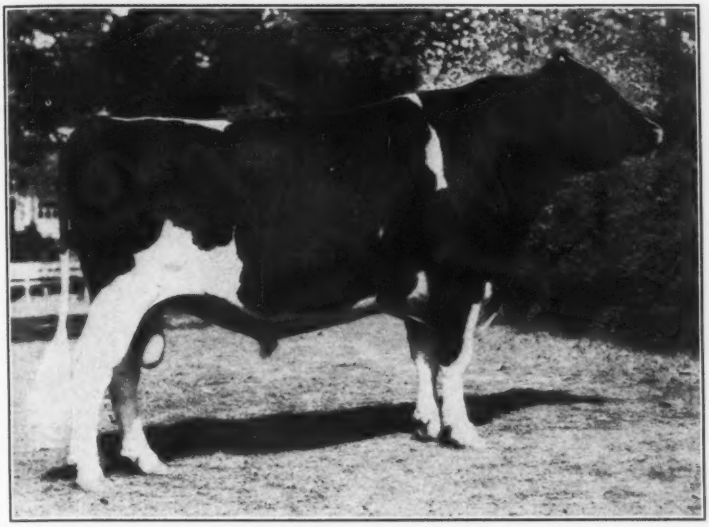


FIGURE 13.—Holstein bull, King Bessie Korndyke Ormsby 14th 667791. Grand Champion, National Dairy Show, 1940.

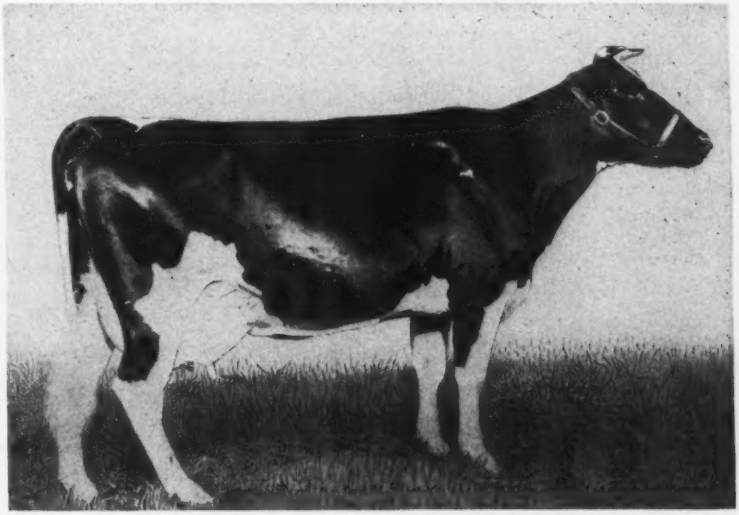


FIGURE 14.—Holstein cow, Montvic Bonheur Black Beauty 2147482. Grand Champion, National Dairy Show, 1940.

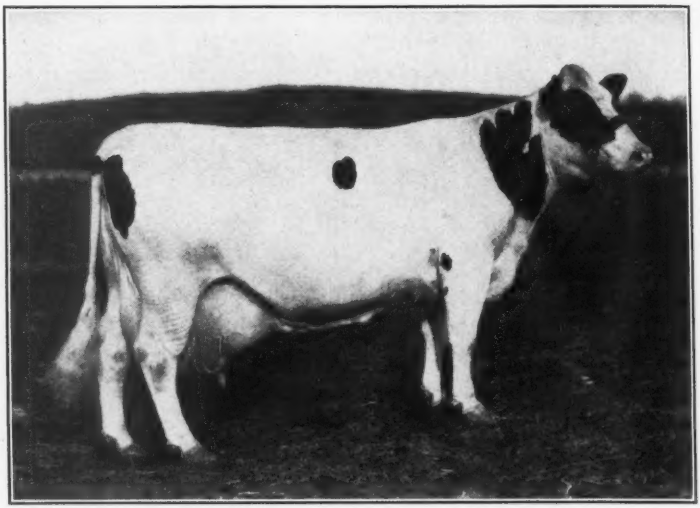


FIGURE 15.—Holstein cow, Carnation Ormsby Butter King 1165152. This cow held the highest yearly milk and butterfat record of all the breeds in the United States up to January 1, 1941.

TABLE 14.—*The 10 highest yearly butterfat and milk producers of the Holstein breed in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pound*
Carnation Ormsby Butter King 1165152	1,402.0	Carnation Ormsby Butter King 1165152	38,607
DeKol Plus Segis Dixie 295135[1]	1,349.3	Carnation Ormsby Madcap Fayne 1639621	37,505
Carnation Ormsby Nellie 1326284	1,328.8	Segis Pietertje Prospect 221846	37,381
Calamity Nig of Elmwood Farms 1560447	1,327.9	Carnation Prospect Veeman 799610	36,859
Carnation Ormsby Madcap 1554602	1,313.0	Carnation Ormsby Madcap 1554602	36,851
Carnation Ormsby Madcap Fayne 1639621	1,306.1	Helm Veeman Woodcrest 486877	36,218
Carnation Ormsby Segis Beauty 1203395	1,290.4	Carnation Ormsby Nellie 1326284	35,887
Daisy Aaggie Ormsby 3d 571569	1,286.2	Lady Pride Pontiac Lieuwkje 849602	35,627
Carnation Prospect Ormsby Gluck 1042591	1,225.4	Kolrain Marion Finderne 317396	35,340
Femco Johanna Bess Fayne 1073533	1,220.4	Alcartra Ormsby Canary 1135532	35,272

[1] Canadian cow.

BULLS

Table 15 lists 10 registered Holstein bulls that were proved in dairy herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture between November 1, 1935, and January 1, 1941. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 10 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the sires that met these conditions the 10 whose daughters average the highest in butterfat production were selected.

TABLE 15.—*Ten registered Holstein-Friesian sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
King Champion Jannek 18th 460879	17	598	128
Mohofar Colantha Ormsby 617203	11	547	102
Posch Ormsby Fobes 11th 701072	12	531	135
Montvic Rag Apple Netherland 695000	16	530	105
Octagon Korndyke DeKol 566341	13	519	185
Taylaker Astrea Ormsby Blossom Jim 668553	13	518	63
Korndyke Doxey Clothilde 455345	13	517	104
Great Home Bess Burke Pride 554771	27	515	100
Nittanyvale Aaggie Loyalsock 486534	39	514	44
Douglas Buttercup Hark 660575	15	514	94

JERSEY

ORIGIN AND HISTORY

The Jersey breed originated in the Island of Jersey, one of the group of Channel Islands, between England and France. In 1789 a law was passed prohibiting the importation of cattle into Jersey Island except for immediate slaughter. Shortly afterwards the cattle on that island became known by the name of Jersey instead of Alderney. No outside blood has been introduced since that time.

IMPORTATION AND DISTRIBUTION

The first importation of Jerseys into the United States was made in 1850. A few more were brought over about 20 years later, and from 1870 to 1890 there were numerous importations. Since 1890 many Jerseys have been imported every year.

The Jerseys are more evenly distributed in the United States than any other breed. Table 1 shows that, in 1932, there were in the United States 9,961,000 animals carrying more or less Jersey blood. According to table 2, in 1930 there were 354,939 registered Jerseys in the United States. It is estimated that on January 1, 1941, the number of registered Jerseys was 261,369.[8]

GENERAL CHARACTERISTICS

The Jersey (figs. 16, 17, and 18) is the smallest in size of the breeds discussed in this bulletin. The calves weigh from 40 to 75 pounds at birth. The heifers develop rapidly and mature sufficiently to drop the first calf at 24 months of age. The mature cows weigh from 900 to 1,100 pounds, averaging about 1,000 pounds, and the bulls weigh from 1,300 to 1,600, averaging about 1,450 pounds.

The color of Jerseys is usually some shade of fawn or cream color, though different shades of mouse color, gray, and brown are common

[8] See footnote 1, p. 9.

and some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead-colored, but light-colored tongues are not uncommon, and around the muzzle is a white or mealy ring.

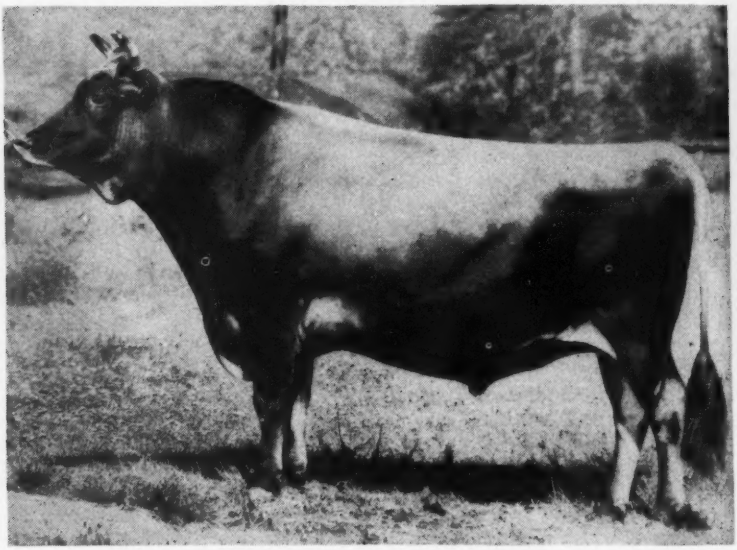


FIGURE 16.—Jersey bull, Misty Dawn's Successor 382743. Grand Champion, National Dairy Show, 1940.

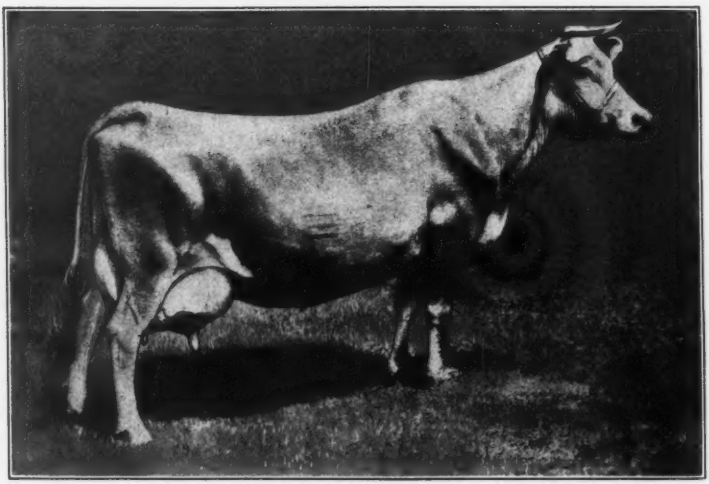


FIGURE 17.—Jersey cow, Abagail of Hillside 457241. Highest milk producer of the breed in the United States.

FIGURE 18.—Jersey cow, Stockwell's April Pogis of H. P. 694544. Highest butterfat producer of the breed in the United States.

SCALE OF POINTS FOR JERSEY COW

	Perfect score
Head	6
Medium size, lean; face dished; broad between eyes; horns medium size, incurving	3
Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide open nostrils and muscular lips, jaws strong	3
Neck	4
Thin, rather long, with clean throat, neatly joined to head and shoulders	4
Body	36
Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs	5
Ribs amply sprung and wide apart, giving wedge shape with deep, large abdomen, firmly held up, with strong muscular development	10
Back straight and strong, with prominent spinal processes; loins broad and strong	5
Rump long to tail setting, and level from hip bones to pin bones	5
Hip bones, prominent and wide apart	3
Thighs flat and wide apart, giving ample room for udder	3
Legs proportionate to size and of fine quality, well apart, with good feet, not to weave or cross in walking, and not crooked	2
Hide loose and mellow	2
Tail thin, long, with good switch, not coarse at setting	1
Udder	24
Large, flexible and not fleshy	6
Broad, level, not deeply cut between teats	4
Fore udder full and well rounded, running well forward of front teats and firmly attached	7
Rear udder well rounded, well out and up behind, wide and firmly attached	7
Teats	8
Uniform, convenient length and size, regularly and squarely placed and to hang plumb	8

SCALE OF POINTS FOR JERSEY COW—Continued		Perfect score
Milk veins		4
Large, long, tortuous and elastic, entering large and numerous orifices	4	
Size		3
Mature cows, 900 to 1,100 pounds	3	
General appearance		15
A symmetrical balancing of all the parts, and a proportion of parts to each other with general indication of pronounced dairy temperament and with capacity for food and productiveness at pail	15	
Total		100

PRODUCTION

Jersey milk usually is yellow and high in percentage of butterfat. Up to January 1, 1941, 47,578 cows and heifers had completed 63,044 Register-of-Merit records in either the 305- or 365-day divisions. The average production per cow of this entire group was 8,584 pounds of milk and 460.2 pounds of butterfat, with an average test of 5.36 percent. Of these, 31,416 were 365-day records which averaged 9,127 pounds of milk and 490 pounds of butterfat.

In the Herd-Improvement Registry up to January 1, 1940, 43,978 records were made in 1,676 herds, and these records average 6,919 pounds of milk and 366 pounds of butterfat, with an average test of 5.29 percent.

The 10 highest butterfat and the 10 highest milk producers among the Jerseys, up to January 1, 1940, are listed in table 16.

TABLE 16.—*The 10 highest yearly butterfat and milk producers of the Jersey breed in the United States*

Cow	Butterfat	Cow	Milk
	Pounds		*Pounds*
Stockwell's April Pogis of H. P. 694544	1,218.5	Abagail of Hillside 457241	23,677
Abagail of Hillside 457241	1,197.5	Madeline of Hillside 389336	20,624
Darling's Jolly Lassie 435948	1,141.3	Fauvic's Star 313018	20,616
Dairylike Star Dolly 1099469	1,132.2	Golden Chief's Lady May 601637	[1] 19,922
Groff's Constance 367292	1,130.1	Fauvic Ruth 385463	19,805
Prince's Emma of H. S. F. 359390	1,110.0	Passport 219742	19,695
Mayflower's Pogis Surprise 705971	1,105.1	Red Lady 396118	19,608
California's Rinda's Insie 565559	1,073.4	Sybil's Miss May 477787	19,239
Imp. Cancalaise 696129	1,072.4	Lad's Likeness 338246	19,223
Sybil's Lucky June 959891	1,055.7	Eminent's Jimp's Owl 297471	19,099

[1] 305-day record.

BULLS

Table 17 lists 10 registered Jersey bulls that were proved in dairy herd-improvement associations and reported in the Bureau of Dairy Industry proved-sire lists, published by the United States Department of Agriculture between November 1, 1935, and January 1, 1941. For a bull to be considered for inclusion in this table, he must have met the following requirements:

(1) He must have had 10 or more unselected daughters with production records, whose dams also had production records.

(2) His daughters must have had an average 305-day butterfat production which exceeded that of the dams by 25 or more pounds.

Records of the daughters and of their dams were converted where necessary to a twice-a-day milking, 6-year-old basis, and if a cow had more than one record, the average of all her records was taken.

From the sires that met these conditions, the 10 whose daughters average the highest in butterfat production were selected.

TABLE 17.—*Ten registered Jersey sires proved in dairy herd-improvement associations*

Name of sire	Daughter-dam comparisons	Average butterfat production of daughters	Increase over dams
	Number	*Pounds*	*Pounds*
Gapon's Countess' Lad 159069	19	496	36
Josephine's Royal King 250214	23	484	57
Vixen's Oxford Beau 131638	10	473	82
Illini Flora's Emperor 258164	16	467	39
S's T's Floss' Duke 216516	14	466	31
Sophie 19th's Victor 13th 207415	16	465	89
Fauvic Owl General 353304	10	464	40
Mary Pogis of Andrewsia 308442	28	460	46
Spermfield Owl's Veteran 329412	17	455	80
Gold Ring's Oxford Lad 293667	13	455	115

THE AMERICAN DAIRY CATTLE CLUB

The American Dairy Cattle Club was organized under the laws of the State of Illinois and filed its certificate of organization November 14, 1936. According to its bylaws this club was formed to improve the dairy cattle of the United States, regardless of color or previous breeding, through the practice of continuously testing the production of females and proving bulls, in the herds of both members and nonmembers under rules established by the board of directors.

TABLE 18.—*Requirements for recording cows and bulls in American Dairy Cattle Club Record*

Order	Pedigree requirements for recording cow or bull
First Order	No pedigree requirement.
Second Order	Parents must be recorded in at least the First Order.[1]
Third Order	Parents must be recorded in at least the Second Order.[2]
Fourth Order	Parents must be recorded in at least the Third Order.

Order	Performance requirements for recording—	
	Cows (record of butterfat production)	Bulls (proved-sire index of butterfat production)
	Pounds	*Pounds*
First Order	(Must have a complete lactation record, no quantity requirement.)[3]	375
Second Order	350	400
Third Order	375	425
Fourth Order	400	450

[1] The pedigree requirement for recording a bull in the Second Order is waived in the case of any dairy bull with a 10-pair index of 450 pounds butterfat.

[2] The pedigree requirement for recording a bull in the Third Order is waived in the case of any bull with a 15-pair index of 500 pounds of butterfat.

[3] The performance requirement for recording a cow in the First Order is waived in the case of any cow with two daughters each having a record of at least 300 pounds of butterfat.

The recording system consists of four or . Each order represents a generation, starting with the First (or st) and progressing to the Fourth (or highest) Order. No an or pedigree record is required for the First Order, but for rec in all higher orders, with few exceptions, there is a pedigree as well as a performance requirement. All performance requirements for females are based on a twice-a-day milking, 305-day record, calculated to maturity, and for bulls on an equal parent index of milk production and percentage of butterfat from at least five dam-and-daughter pairs, based on such records. The requirements for recording are given in table 18.

No animals had been recorded in the Fourth Order up to January 1, 1941.

BREED ASSOCIATIONS

The various national breed associations and clubs maintain offices and forces whose duty it is (1) to keep the herdbooks for their respective breeds; (2) to keep a record of the animals that have qualified for the additional registration because of meritorious performance; and (3) to further the interest of the breed in other ways. The official names of these organizations, the names of their respective secretaries, and their addresses are as follows:

Ayrshire Breeders' Association of the United States of America, C. T. Conklin, secretary, Brandon, Vt.

Brown Swiss Cattle Breeders' Association of America, Ira Inman, secretary, Beloit, Wis.

Dutch Belted Cattle Association of America, R. E. Schwartz, secretary, Buchanan, Mich.

The American Dairy Cattle Club, Clifford L. Clevenger, secretary, 11 South LaSalle Street, Chicago, Ill.

The American Guernsey Cattle Club, Karl B. Musser, secretary, Peterborough, N. H.

The American Jersey Cattle Club, L. W. Morley, secretary, 324 West Twenty-third Street, New York, N. Y.

The Holstein-Friesian Association of America, H. W. Norton, Jr., secretary, Brattleboro, Vt.

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